Pioneer sound.vision.soul

# Service Manual

ORDER NO.
**ARP3468**

## PLASMA TELEVISION

# PDP-508XG
# PDP-508XDA
# PDP-508XC

### THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

| Model | Type | Power Requirement | Remarks |
|---|---|---|---|
| PDP-508XG | DLFT | AC 110 V to 240 V | |
| PDP-508XDA | YP | AC 240 V | |
| PDP-508XC | WA5 | AC 220 V to 240 V | |

### This service manual should be used together with the following manual(s):

| Model | Order No. | Remarks |
|---|---|---|
| PDP-5080XA/WYV5 | ARP3445 | EXPLODED VIEWS, BLOCK DIAGRAM, ADJUSTMENT, etc |

**For SPECIFICATIONS and PANEL FACILITIES, refer to the operating instructions.**

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# 1. CONTRAST OF MISCELLANEOUS PARTS

*NOTES:*
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*
- *Nos. indicate the pages and Nos. in the service manual for the base model.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

*Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).*

560Ω → $56 \times 10^1$ → 561 ........ RD1/4PU$\boxed{5}\boxed{6}\boxed{1}$J
47kΩ → $47 \times 10^3$ → 473 ........ RD1/4PU$\boxed{4}\boxed{7}\boxed{3}$J
0.5Ω → R50 ........ RN2H$\boxed{R}\boxed{5}\boxed{0}$K
1Ω → 1R0 ........ RS1P$\boxed{1}\boxed{R}\boxed{0}$K

*Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).*

5.62kΩ → $562 \times 10^1$ → 5621 ........ RN1/4PC$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

## CONTRAST TABLE

PDP-508XD/WYV5, PDP-508XG/DLFT, PDP-508XDA/YP and PDP-508XC/WA5 are constructed the same except for the following:

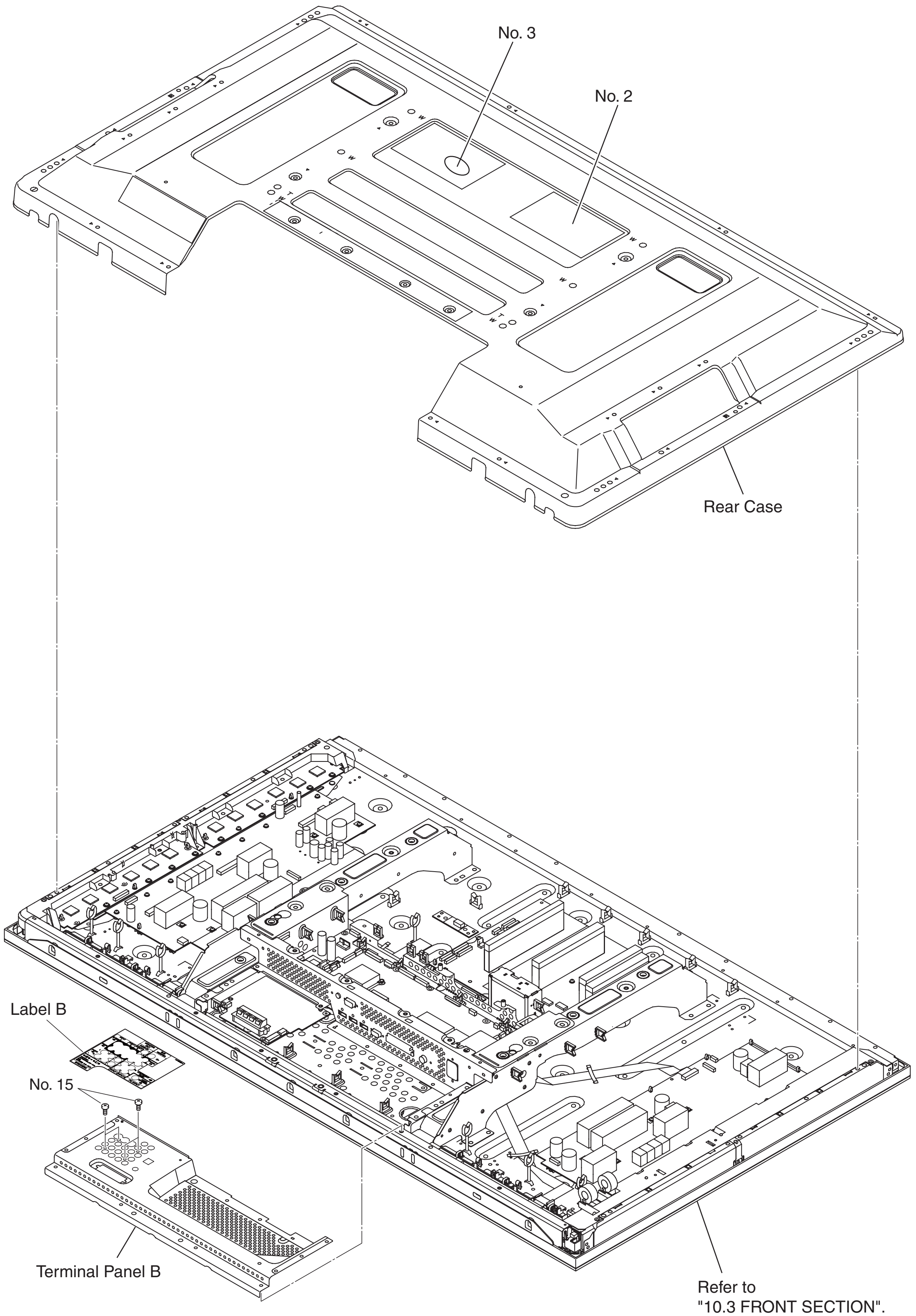
| Mark | No. | Symbol and Description | PDP-508XD /WYV5 | PDP-508XG /DLFT | PDP-508XDA /YP | PDP-508XC /WA5 | Remarks |
|---|---|---|---|---|---|---|---|
| | | **PCB ASSEMBLIES** | | | | | |
| | P173-1 | MAIN Assy | AWV2461 | AWV2465 | AWV2465 | AWV2466 | |
| NSP | | 1..FUKUGO Assy | AWV2481 | AWV2491 | AWV2489 | AWV2491 | |
| | P173-2 | 2..TANSHI ASSY | AWW1248 | AWW1258 | AWW1256 | AWW1258 | |
| | P163-1 | 2..SIDE IO ASSY | AWW1253 | AWW1259 | AWW1259 | AWW1259 | |
| | P173-3 | 2..232C ASSY | AWW1254 | Not used | Not used | Not used | |
| NSP | | 1..50 DIGITAL ASSY | AWV2445 | AWV2533 | AWV2533 | AWV2533 | |
| | P169-3 | 2..50 DIGITAL ASSY | AWW1270 | AWW1337 | AWW1337 | AWW1337 | |
| | | DTV TUNER BOARD | Not used | Not used | AXY1170 | Not used | *1 No. 1 |
| | | **PACKING SECTION** | | | | | |
| ⚠ | P161-1 | Power Cord (2 m) | ADG1214 | Not used | ADG1245 | ADG1209 | |
| | P161-3 | Remote Control Unit | AXD1551 | AXD1554 | AXD1555 | AXD1556 | |
| NSP | P161-5 | Dry Cell Battery (R06, AA) | VEM1031 | AEX1025 | VEM1031 | VEM1031 | |
| | P161-9 | Operating Instructions (English/French/German) | ARE1484 | Not used | Not used | Not used | |
| | P161-10 | Operating Instructions (Italian/Spanish/Dutch) | ARC1601 | Not used | Not used | Not used | |
| | P161-11 | Caution Card | ARM1232 | ARM1232 | ARM1232 | Not used | |
| NSP | P161-13 | Warranty Card | ARY1204 | Not used | ARY1192 | ARY1161 | |
| | P161-14 | Polyethylene Bag | AHG1337 | AHG1337 | AHG1336 | AHG1336 | |
| NSP | P161-15 | Catalogue Bag | AHG1340 | Not used | Not used | AHG1340 | |
| | P161-21 | Power Cord Lid | AHC1085 | AHC1085 | Not used | Not used | |
| | P161-23 | Upper Carton | AHD3646 | AHD3606 | AHD3607 | AHD3608 | |
| | P161-25 | After Image Caution | ARM1350 | Not used | Not used | Not used | |
| | | Operating Instructions (Simp-Chinese) | Not used | Not used | Not used | ARC1581 | |
| | | Operating Instructions (English) | Not used | Not used | ARB1577 | Not used | |
| | | Operating Instructions (English/Spanish/Portuguese /Trad-Chinese) | Not used | ARE1479 | Not used | Not used | |
| ⚠NSP | | Power Cord | Not used | ADG1232 | Not used | Not used | |
| ⚠NSP | | Power Cord | Not used | ADG1234 | Not used | Not used | |
| ⚠NSP | | Power Cord | Not used | ADG1236 | Not used | Not used | |
| ⚠NSP | | Power Cord | Not used | ADG1239 | Not used | Not used | |
| ⚠NSP | | Power Cord | Not used | ADG1241 | Not used | Not used | |
| ⚠NSP | | Power Cord | Not used | ADG1242 | Not used | Not used | |
| ⚠NSP | | Power Cord | Not used | ADG1243 | Not used | Not used | |

| Mark | No. | Symbol and Description | PDP-508XD /WYV5 | PDP-508XG /DLFT | PDP-508XDA /YP | PDP-508XC /WA5 | Remarks |
|---|---|---|---|---|---|---|---|
| ⚠NSP | | Power Cord | Not used | ADG1244 | Not used | Not used | |
| ⚠NSP | | Power Cord | Not used | ADG1246 | Not used | Not used | |
| ⚠NSP | | Power Cord Assy | Not used | AWX1095 | Not used | Not used | |
| | | PAL RF Cable (30cm) | Not used | Not used | ADF1036 | Not used | |
| | | Caution Card (PC) | Not used | Not used | Not used | ARM1302 | |
| | | **REAR SECTION** | | | | | |
| NSP | P163-17 | Name Label | AAL3005 | AAL3011 | AAL3012 | AAL3014 | |
| | P163-19 | Bolt Caution Label (E) | AAX3533 | AAX3533 | AAX3533 | AAX3550 | |
| | P163-20 | Label A | AAX3480 | AAX3485 | AAX3484 | AAX3485 | |
| | P163-21 | Label B50 | AAX3543 | AAX3500 | AAX3520 | AAX3500 | |
| | P163-22 | Label C | AAX3504 | AAX3507 | AAX3521 | AAX3507 | |
| | P163-23 | Terminal Panel B | ANC2454 | ANC2456 | ANC2456 | ANC2456 | |
| | P163-28 | Input Cover Label E | AAX3510 | AAX3511 | AAX3511 | AAX3511 | |
| | P163-38 | Screw | BPZ30P080FTB | Not used | Not used | Not used | |
| | | Destination Label O | Not used | AAX3446 | Not used | Not used | No. 2 |
| NSP | | CCC S&E Label | Not used | Not used | Not used | DRW2310 | No. 3 |
| | | Screw | Not used | BBZ30P060FTB | BBZ30P060FTB | BBZ30P060FTB | No. 15 |
| | | **FRONT SECTION** | | | | | |
| | P165-12 | Front Case Assy | AMB3025 | AMB3026 | AMB3027 | AMB3026 | |
| | | **MULTI BASE SECTION** | | | | | |
| | P173-7 | Flexible Cable (J217) | ADD1494 | Not used | Not used | Not used | |
| | P173-20 | POD Cover | AMR3542 | Not used | Not used | Not used | |
| | P173-21 | Multi Base Assy | ANA2103 | ANA2103 | ANA2104 | ANA2103 | |
| | P173-22 | Terminal Panel A | ANC2441 | ANC2445 | ANC2446 | ANC2445 | |
| | | 12P Housing Wire (J131) | Not used | Not used | ADX3549 | Not used | No. 4 |
| | | Flexible Cable (J219) | Not used | Not used | ADD1450 | Not used | No. 5 |
| | | Flexible Cable (J220) | Not used | Not used | ADD1497 | Not used | No. 6 |
| NSP | | Bottom Can | Not used | Not used | XNA1005 | Not used | No. 7 |
| | | Top Can | Not used | Not used | XNG1002 | Not used | No. 8 |
| | | Screw | Not used | Not used | ABZ30P060FTC | Not used | No. 9 |
| | | Screw | Not used | Not used | BBZ30P060FTB | Not used | No. 10 |
| | | Screw | Not used | Not used | PMB30P080FNI | Not used | No. 11 |
| | | Gasket N | Not used | Not used | ANK1776 | Not used | No. 12 |
| | | Frontend Holder G | Not used | ANG3120 | Not used | ANG3120 | No. 13 |
| | | Screw | Not used | AMZ30P060FTC | Not used | AMZ30P060FTC | No. 14 |

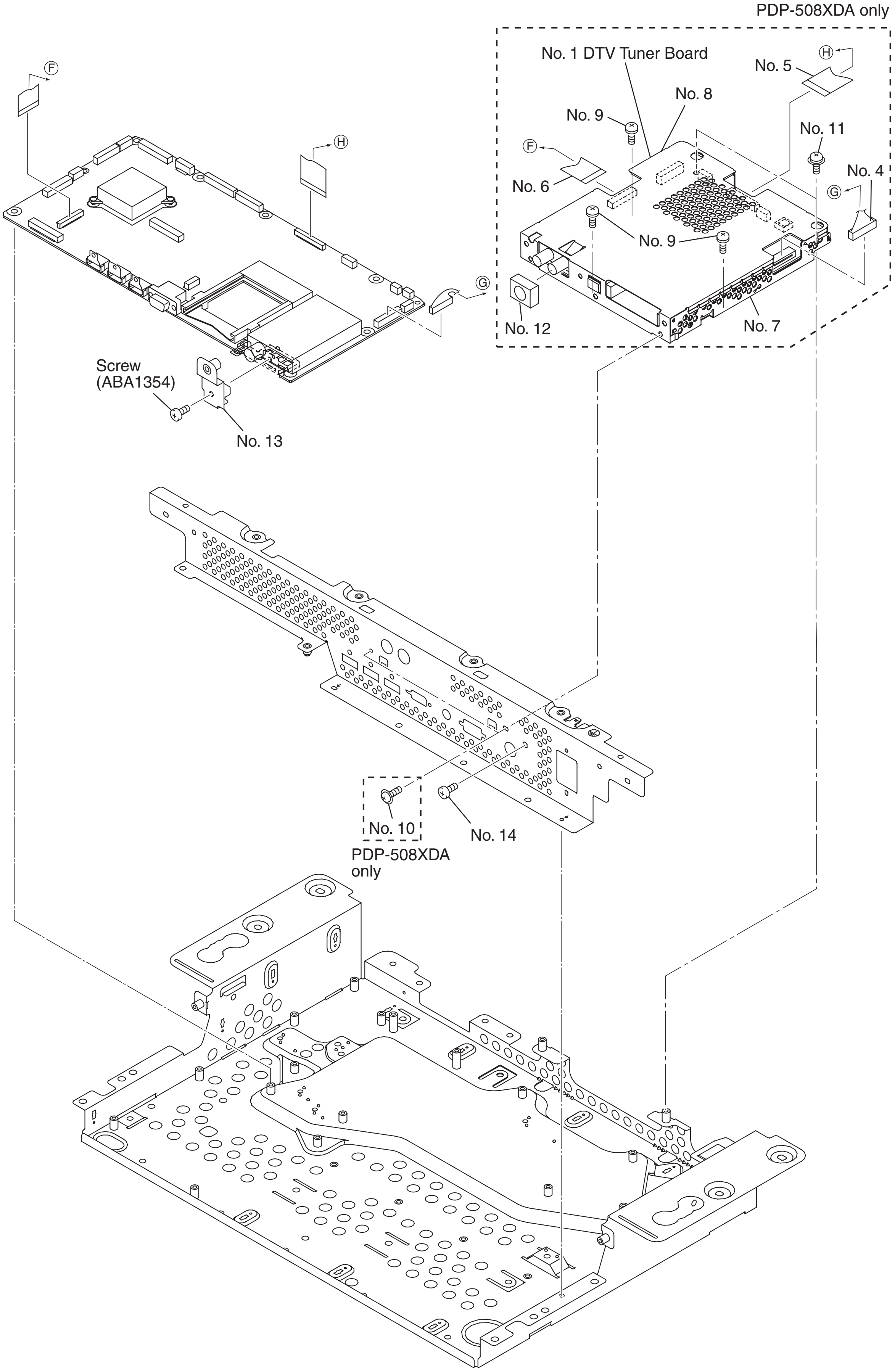
Notes : The numbers in the remarks column correspond to the numbers on the “EXPLODED VIEWS”.
For PCB ASSEMBLIES, Refer to “5. SCHEMATIC DIAGRAM” , “6. PCB CONNECTION DIAGRAM" and “7. PCB PARTS LIST”.
*1 : DTV TUNER BOARD has no service parts.

## 1.0.1 EXPLODED VIEWS

### EXTERIOR (Rear Section)


No. 3
No. 2
Rear Case
Label B
No. 15
Terminal Panel B
Refer to
"10.3 FRONT SECTION".

## EXTERIOR (Mult Base Section)


PDP-508XDA only
No. 1 DTV Tuner Board
No. 5
No. 8
No. 9
No. 11
No. 4
No. 6
No. 9
No. 12
No. 7
Ⓕ
Ⓗ
Ⓖ
Screw
(ABA1354)
No. 13
No. 10
No. 14
PDP-508XDA
only

# 2. BASIC ITEMS FOR SERVICE

## 2.1 QUICK REFERENCE

### Quick Reference upon Service Visit ①
### Notes, PD/SD diagnosis, and methods for various settings

### Notes when visiting for service

**1. Notes when disassembling/reassembling**

**① Rear case**
When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "7. DISASSEMBLY".

**② Attaching screws for the HDMI connector**
When attaching the HDMI connector after replacing the Main Assy, secure the HDMI connector manually with a screwdriver, but not with an electric screwdriver. If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

**2. On parts replacement**

**① How to discharge before replacing the Assys**
A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:
A: Let the panel sit at least for 3 minutes after the power is turned off.
B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.
For details, see "5.6.1 PANEL DRIVE-POWER ON/OFF FUNCTION".

**② On the settings after replacement of the Assys**
Some boards need settings made after replacement of the Assys. For details, see "8. EACH SETTING AND ADJUSTMENT".

**3. On various settings**

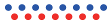
**① Setting in Factory mode**
After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

**PD/SD**

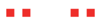
| | Item | No. of LEDs flashing | |
|---|---|---|---|
| | | Red | Blue |
| Panel section | SQ_LSI | | Blue 1 |
| | Communication with the module IIC | | Blue 2 |
| | DIGITAL-RST2 | | Blue 3 |
| | Panel high temperature | | Blue 4 |
| MTB section | Audio/ Short-circuit SP terminal | | Blue 5 |
| | Communication with the Module UCOM | | Blue 6 |
| | Main 3-wire serial communication | | Blue 7 |
| | Main IIC communication | | Blue 8 |
| | Communication with the Main UCOM | | Blue 9 |
| | FAN | | Blue 10 |
| | Unit high temperature | | Blue 11 |
| | Digital Tuner communication | | Blue 12 |
| | MTB-RST2/RST4 | | Blue 13 |
| | Main EEPROM | | Blue 15 |
| POWER | | Red 2 | |
| SCAN | | Red 3 | |
| SCN-5V | | Red 4 | |
| Y-DRIVE | | Red 5 | |
| Y-DCDC | | Red 6 | |
| Y-SUS | | Red 7 | |
| ADRS | | Red 8 | |
| X-DRIVE | | Red 9 | |
| X-DCDC | | Red 10 | |
| X-SUS | | Red 11 | |
| DIG-DCDC | | Red 12 | |
| UNKNOWN | | Red 15 | |

**LED Display Information**

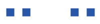
① Rewriting software



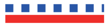
② PD (2-15)



③ SD (1-15)



④ No backup



This indication does not display all LED patterns.
For details, please refer to 5.1.1 LED DISPLAY INFORMATION.

### How to locate several items on the Factory menu

{ } : Item on the Factory menu
[ ] : Key on the remote control unit
" " : Screen indication

**1. Confirmation of accumulated power-on time and power-on count**
Select {INFORMATION} then {HOUR METER}.
(After entering Factory mode, press [⬇] five times.)

**2. Confirmation of the Power-down and Shutdown histories**

**① Panel system**
PD: Select {PANEL FACTORY} then {POWER DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] three times.)
SD: Select {PANEL FACTORY} then {SHUT DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] four times.)

**② MTB section**
Select {INFORMATION} then {MAIN NG}.
(After entering Factory mode, press [⬇] three times.)

**3. How to display the Mask indication**

**① Mask indication in the panel side**
1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] 8 times.)
2. Press [ENTER/SET], then select a Mask indication, using [⬇] or [⬆].

### Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

**1. Digital Video Assy: Transfer of backup data**
① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, then press [ENTER/SET].)
② Select {TRANSFER}, using [➡], then hold [ENTER/SET] pressed for at least 5 seconds.
③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

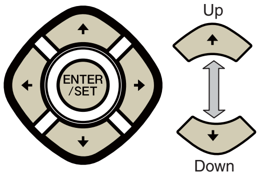
**2. MAIN Assy: Execution of FINAL SETUP.**
① Select {INITIALIZE} then {FINAL SETUP}, then press [ENTER/SET]. (After entering Factory mode, press [MUTING] three times, then press [⬇] four times.)
② Select "YES", using [➡]. Then hold [ENTER/SET] pressed for at least 5 seconds.
③ After "FINAL SETUP IS COMPLETE" is displayed on the screen, turn the POWER switch of the main unit off.

**3. POWER SUPPLY Unit: Clearance of the accumulated power-on count and maximum temperature value**
① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] six times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

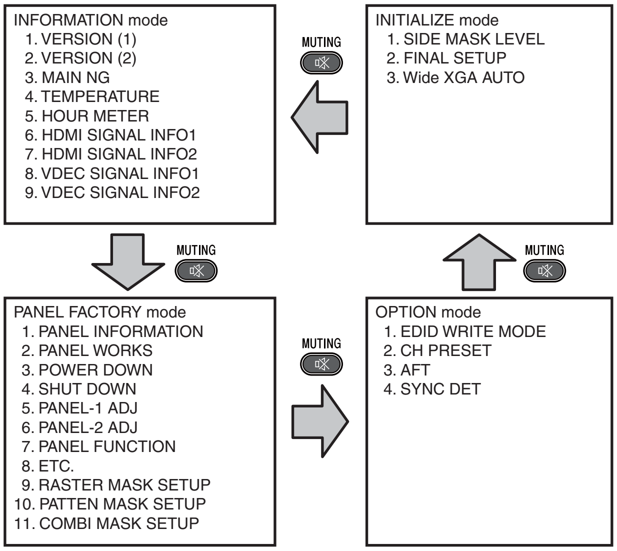
**4. Other Assys: Clearance of the maximum temperature value**
① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] seven times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected.

# Quick Reference upon Service Visit ②
# Mode transition and structure of layers in Service Factory mode

## Mode transition in Service Factory mode



- To shift to another mode, press [MUTING].
- To shift to another item in a specific mode, press [⬆] or [⬇].
- To shift to the next nested layer below for an item with a "(+)" indication, press [ENTER/SET]. To return to the next nested layer above, also press [ENTER/SET].



INFORMATION mode
1. VERSION (1)
2. VERSION (2)
3. MAIN NG
4. TEMPERATURE
5. HOUR METER
6. HDMI SIGNAL INFO1
7. HDMI SIGNAL INFO2
8. VDEC SIGNAL INFO1
9. VDEC SIGNAL INFO2

INITIALIZE mode
1. SIDE MASK LEVEL
2. FINAL SETUP
3. Wide XGA AUTO

PANEL FACTORY mode
1. PANEL INFORMATION
2. PANEL WORKS
3. POWER DOWN
4. SHUT DOWN
5. PANEL-1 ADJ
6. PANEL-2 ADJ
7. PANEL FUNCTION
8. ETC.
9. RASTER MASK SETUP
10. PATTEN MASK SETUP
11. COMBI MASK SETUP

OPTION mode
1. EDID WRITE MODE
2. CH PRESET
3. AFT
4. SYNC DET

## Structure of Layers in Service Factory Mode

| | |
|---|---|
| INFORMATION mode | |
| 1. VERSION (1) | The software versions for each microcomputer |
| 2. VERSION (2) | The Flash memory versions for each device |
| 3. MAIN NG | The shutdown message ID/event times<br>(Going Clear mode by [ENTER/SET] key) |
| 3-1. CLEAR | Select Yes by [➡] key, ➡ pressing and hold [ENTER/SET] key |
| 4. TEMPERATURE | The temperature/FAN rotating status/Room light sensor |
| 5. HOUR METER | The HOUR METER/P-COUNT information |
| 6. HDMI SIGNAL INFO 1 | The information of HDMI information files |
| 7. HDMI SIGNAL INFO 2 | The information of HDMI information files |
| 8. VDEC SIGNAL INFO 1 | The signal information of VDEC |
| 9. VDEC SIGNAL INFO 2 | The signal information of VDEC |
| PANEL FACTORY mode | Refer to [PANEL FACTORY MODE] |
| OPTION mode | |
| 1. EDID WRITE MODE | For factory use |
| 2. CH PRESET | For production line use |
| 3. AFT | For factory use |
| 4. SYNC DET | For technical analysis |
| INITIALIZE mode | |
| 1. SIDE MASK LEVEL | For factory use |
| 1-1. SIDE MASK LEVEL | |
| 2. FINAL SETUP | Set to Factory default settings (it should perform after replacing a MAIN Assy) |
| 2-1. DATA RESET | |
| 3. Wide XGA AUTO | For technical analysis |

## Structure of Layers in Panel Factory Mode 1

| | |
|---|---|
| 1. PANEL INFORMATION | Version indication of the panel |
| 2. PANEL WORKS | Indications of the accumulated power-on time, pulse-meter count, and power-on count of the panel |
| 3. POWER DOWN | Indication of the Power-down history |
| 4. SHUT DOWN | Indication of the Shutdown history |
| 5. PANEL-1 ADJ (+) | |
| 1. VOL SUS | Settings required after replacement of the panel |
| 2. VOL OFFSET | |
| • • • • • | |
| 8. VOL YNOFS4 | |
| 9. RESET1ST_KSB | Modification not required because these items are basically for factory presetting |
| 10. RESET2ND_KSB | |
| • • • • • | |
| 23. YSTL_FMR_HZ | |
| 24. SUS FREQ | For AM noise prevention (Depending on the mode, brightness of the screen changes.)<br>For confirmation of the result of the setting change, the unit must be turned off then back on again. |
| 6. PANEL-2 ADJ (+) | |
| 1. R-HIGH | Parameters for the WB adjustment of the panel, which are required during adjustment after panel replacement |
| 2. G-HIGH | |
| 3 .B-HIGH | |
| 4. R-LOW | |
| 5. G-LOW | |
| 6. B-LOW | |
| 7. ABL | Setting of the power consumption. A setting table is available for each vertical signal. |

To "Structure of Layers in Panel Factory Mode 2"

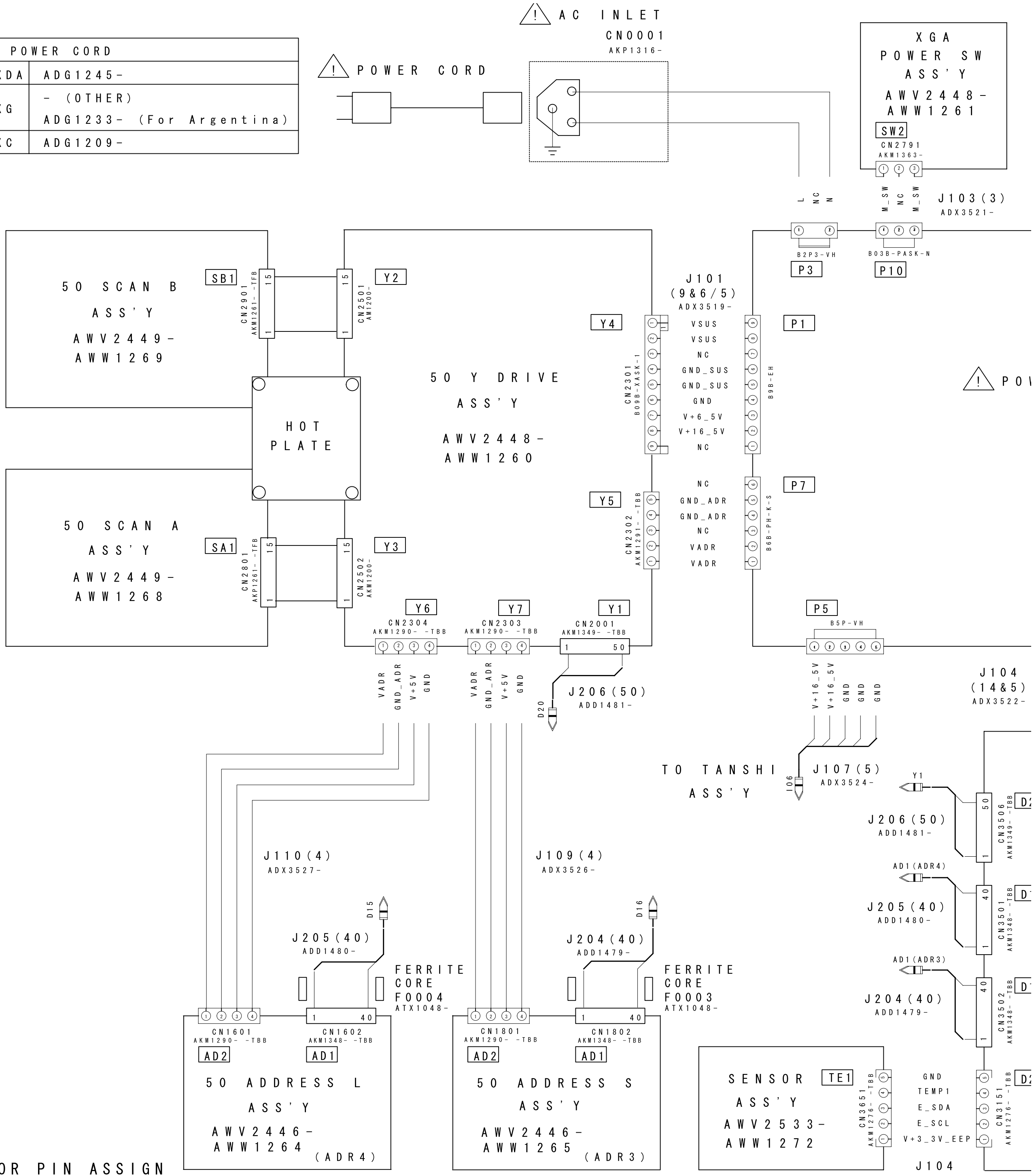
## Structure of Layers in Panel Factory Mode 2

| | |
|---|---|
| 7. PANEL FUNCTION (+) | |
| 1. R-LEVEL | Items for use by engineers |
| 2. G-LEVEL | |
| 3. B-LEVEL | |
| 4. ADDRESS L1 | |
| 5. ADDRESS L2 | |
| • • • • • | |
| 11. ADDRESS U4 | |
| 12. STK MODE | |
| 8. ETC (+) | |
| 1. BACKUP DATA | For transferring backup data (after replacement of the DIGITAL Assy) |
| 2. DIGITAL EEPROM | To clear data of the digital video |
| 3. PD INFO. | For clearance of data for the corresponding items. The clearing method is the same: Select "CLEAR", using [➡], then hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, {ETC} is automatically selected. |
| 4. SD INFO. | |
| 5. HR-MTR INFO. | |
| 6. PM/B1-B5 | |
| 7. P COUNT INFO. | |
| 8. MAX TEMP. | |
| 9. RASTER MASK SETUP (+) | |
| 1. MASK OFF | For use while Raster Mask (full mask) is displayed. Use [⬆] or [⬇] to select the type of mask. |
| 2. RST MASK 01 | |
| • • • • • | |
| 26. RST MASK 25 | |
| 10. PATTEN MASK SETUP (+) | |
| 1. MASK OFF | For use while Pattern Mask is displayed. Use [⬆] or [⬇] to select the type of mask. |
| 2. PTN MASK 01 | |
| • • • • • | |
| 50. PTN MASK 49 | |
| 11. COMBI MASK SETUP (+) | |
| 1. MASK OFF | For use while Combination Mask is displayed. Use [⬆] or [⬇] to select the type of mask. |
| 2. CMB MASK 01 | |
| • • • • • | |
| 18. CMB MASK 17 | |

# 3. BLOCK DIAGRAM

## 3.1 OVERALL WIRING DIAGRAM (1/2)

| POWER CORD | |
|---|---|
| PDP-508XDA | ADG1245- |
| PDP-508XG | - (OTHER)<br>ADG1233- (For Argentina) |
| PDP-508XC | ADG1209- |



⚠ AC INLET
CN0001
AKP1316-
⚠ POWER CORD
XGA POWER SW ASS'Y
AWV2448-
AWW1261
SW2
CN2791
AKM1363-
L NC N
M_SW NC M_SW
J103(3)
ADX3521-
B2P3-VH
P3
B03B-PASK-N
P10
50 SCAN B ASS'Y
AWV2449-
AWW1269
SB1
CN2901
AKP1261- -TFB
15
1
Y2
CN2501
AKM1200-
HOT PLATE
50 Y DRIVE ASS'Y
AWV2448-
AWW1260
J101
(9&6/5)
ADX3519-
Y4
CN2301
B09B-XASK-1
VSUS
VSUS
NC
GND_SUS
GND_SUS
GND
V+6_5V
V+16_5V
NC
B9B-EH
P1
⚠ PO
Y5
CN2302
AKM1291- -TBB
NC
GND_ADR
GND_ADR
NC
VADR
VADR
B6B-PH-K-S
P7
50 SCAN A ASS'Y
AWV2449-
AWW1268
SA1
CN2801
AKP1261- -TFB
Y3
CN2502
AKM1200-
Y6
CN2304
AKM1290- -TBB
Y7
CN2303
AKM1290- -TBB
Y1
CN2001
AKM1349- -TBB
1
50
VADR
GND_ADR
V+5V
GND
D20
J206(50)
ADD1481-
P5
B5P-VH
V+16_5V
V+16_5V
GND
GND
GND
J104
(14&5)
ADX3522-
TO TANSHI ASS'Y
I06
J107(5)
ADX3524-
Y1
J206(50)
ADD1481-
CN3506
AKM1349- -TBB
D2
AD1(ADR4)
J205(40)
ADD1480-
CN3501
AKM1348- -TBB
D1
AD1(ADR3)
J204(40)
ADD1479-
CN3502
AKM1348- -TBB
D1
J110(4)
ADX3527-
J109(4)
ADX3526-
D15
J205(40)
ADD1480-
FERRITE CORE
F0004
ATX1048-
D16
J204(40)
ADD1479-
FERRITE CORE
F0003
ATX1048-
CN1601
AKM1290- -TBB
AD2
CN1602
AKM1348- -TBB
AD1
1
40
50 ADDRESS L ASS'Y
AWV2446-
AWW1264
(ADR4)
CN1801
AKM1290- -TBB
AD2
CN1802
AKM1348- -TBB
AD1
50 ADDRESS S ASS'Y
AWV2446-
AWW1265
(ADR3)
SENSOR ASS'Y
AWV2533-
AWW1272
TE1
CN3651
AKM1276- -TBB
GND
TEMP1
E_SDA
E_SCL
V+3_3V_EEP
CN3151
AKM1276- -TBB
D2
J104
(14&5)
ADX3522-

CONNECTOR PIN ASSIGN

CN3501 D15 → CN1602 AD1
CN3502 D16 → CN1802 AD1
CN3503 D17 → CN1802 AD1
CN3504 D18 → CN1602 AD1

1→40. NC
2→39. ADR_PD
3→38. PSIZE
4→37. GND
5→36. V+8V
6→35. V+8V
7→34. GND
8→33. GND
9→32. NC
10→31. AN
11→30. AP
12→29. NC
13→28. GND
14→27. NC
15→26. BN
16→25. BP
17→24. NC
18→23. GND
19→22. NC
20→21. CN
21→20. CP
22→19. NC
23→18. GND
24→17. NC
25→16. CLKN
26→15. CLKP
27→14. NC
28→13. GND
29→12. NC
30→11. DN
31→10. DP
32→ 9. NC
33→ 8. GND
34→ 7. GND
35→ 6. V+3_3V_D
36→ 5. V+3_3V_D
37→ 4. GND
38→ 3. NC
39→ 2. LS2
40→ 1. GND

CN2502 Y3
↓
CN2801 SA1

1. VH
2. VH
3. NC
4. NC
5. GNDH
6. SI_R
7. SI_L
8. CLR
9. OC2
10. OC1
11. CLK
12. LE
13. GNDH
14. GNDH_R
15. IC5V

CN2501 Y2
↓
CN2901 SB1

1. VH
2. VH
3. NC
4. NC
5. GNDH
6. SI_R
7. SI_H
8. CLR
9. OC2
10. OC1
11. CLK
12. LE
13. GNDH
14. GNDH_R
15. IC5V

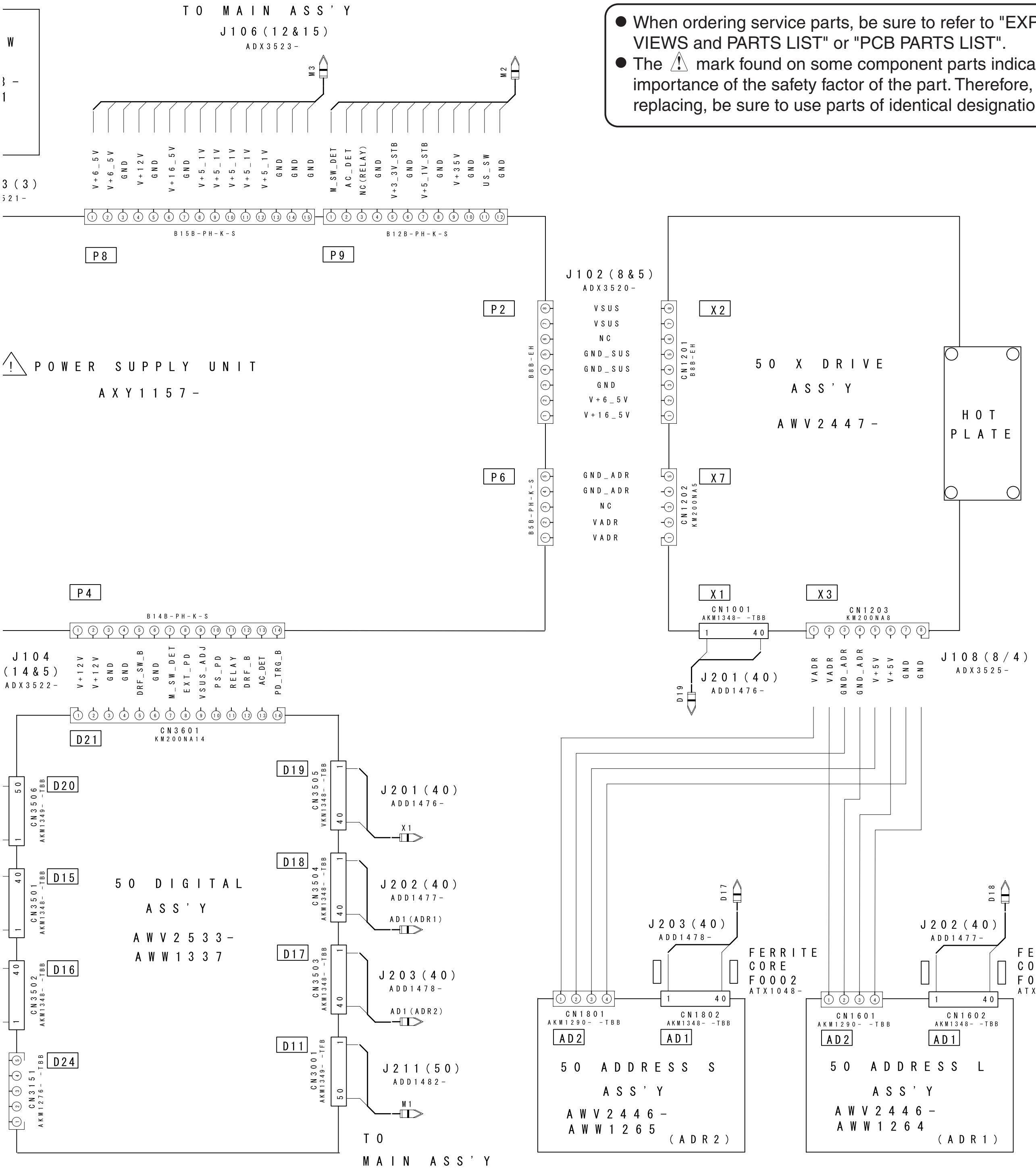
CN3505 D19 → CN1001 X1

1→40. XCN_PD
2→39. NC
3→38. GND
4→37. XSUS_B
5→36. GND
6→35. XSUS_U
7→34. GND
8→33. XSUS_D
9→32. GND
10→31. XSUS_G
11→30. GND
12→29. XPRST
13→28. GND
14→27. XKOFS1
15→26. GND
16→25. XKOFS2
17→24. GND
18→23. XSOFT_D
19→22. GND
20→21. SUS_MUTE
21→20. GND
22→19. XKOFS1_ADJ
23→18. XKOFS2_ADJ
24→17. GND
25→16. XDRV_PD
26→15. XDD_PD
27→14. PSW2
28→13. GND
29→12. NC
30→11. NC
31→10. NC
32→ 9. NC
33→ 8. NC
34→ 7. NC
35→ 6. NC
36→ 5. NC
37→ 4. NC
38→ 3. NC
39→ 2. NC
40→ 1. XSUS_PD

CN3506 D20 → CN2001 Y1

1→50. YCN_PD
2→49. SCN5V_PD
3→48. SI
4→47. GND
5→46. CLR
6→45. CLK
7→44. GND
8→43. LE
9→42. OC2
10→41. OC1
11→40. GND
12→39. YSUS_B
13→38. YSUS_U
14→37. GND
15→36. YSUS_D
16→35. YSUS_G
17→34. GND
18→33. YPR-U
19→32. SUS_MUTE
20→31. GND
21→30. YSUS_MSK_H
22→29. YSUS_MSK_L
23→28. GND
24→27. YKNOFS1
25→26. YKNOFS2
26→25. YKNOFS3
27→24. YKNOFS4
28→23. GND
29→22. YNOFS
30→21. YRST_D
31→20. YSOFT_G
32→19. YSOFT_D
33→18. GND
34→17. VOFS_ADJ
35→16. VYPRST_ADJ
36→15. GND
37→14. NC
38→13. VKNOFS1_2_ADJ
39→12. VKNOFS3_ADJ
40→11. VKNOFS4_ADJ
41→10. GND
42→ 9. YRsv1
43→ 8. YRsv2
44→ 7. YRsv3
45→ 6. GND
46→ 5. YDD_PD
47→ 4. YSUS_PD
48→ 3. SCAN_PD
49→ 2. YDRV_PD
50→ 1. PSW2

- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.


TO MAIN ASS'Y
J106(12&15)
ADX3523-
M3
M2
V+6_5V
V+6_5V
GND
V+12V
GND
V+16_5V
GND
V+5_1V
V+5_1V
V+5_1V
V+5_1V
GND
GND
GND
M_SW_DET
AC_DET
NC(RELAY)
GND
V+3_3V_STB
GND
V+5_1V_STB
GND
V+35V
GND
US_SW
GND
B15B-PH-K-S
B12B-PH-K-S
P8
P9
J102(8&5)
ADX3520-
P2
X2
B8B-EH
VSUS
VSUS
NC
GND_SUS
GND_SUS
GND
V+6_5V
V+16_5V
CN1201
B8B-EH
⚠ POWER SUPPLY UNIT
AXY1157-
50 X DRIVE
ASS'Y
AWV2447-
HOT
PLATE
P6
X7
B5B-PH-K-S
GND_ADR
GND_ADR
NC
VADR
VADR
CN1202
KM200NA5
P4
B14B-PH-K-S
X1
X3
CN1001
AKM1348- -TBB
CN1203
KM200NA8
J104
(14&5)
ADX3522-
V+12V
V+12V
GND
GND
DRF_SW_B
GND
M_SW_DET
EXT_PD
VSUS_ADJ
PS_PD
RELAY
DRF_B
AC_DET
PD_TRG_B
D19
J201(40)
ADD1476-
VADR
VADR
GND_ADR
GND_ADR
V+5V
V+5V
GND
GND
J108(8/4)
ADX3525-
CN3601
KM200NA14
D21
D19
CN3505
VKN1348- -TBB
J201(40)
ADD1476-
X1
D20
CN3506
AKM1349- -TBB
D18
CN3504
AKM1348- -TBB
J202(40)
ADD1477-
AD1(ADR1)
D15
CN3501
AKM1348- -TBB
50 DIGITAL
ASS'Y
AWV2533-
AWW1337
D17
CN3503
AKM1348- -TBB
J203(40)
ADD1478-
AD1(ADR2)
D16
CN3502
AKM1348- -TBB
D11
CN3001
AKM1349- -TFB
J211(50)
ADD1482-
M1
D24
CN3151
AKM1276- -TBB
TO
MAIN ASS'Y
D17
J203(40)
ADD1478-
FERRITE
CORE
F0002
ATX1048-
CN1801
AKM1290- -TBB
CN1802
AKM1348- -TBB
AD2
AD1
50 ADDRESS S
ASS'Y
AWV2446-
AWW1265
(ADR2)
D18
J202(40)
ADD1477-
FERRITE
CORE
F0001
ATX1048-
CN1601
AKM1290- -TBB
CN1602
AKM1348- -TBB
AD2
AD1
50 ADDRESS L
ASS'Y
AWV2446-
AWW1264
(ADR1)

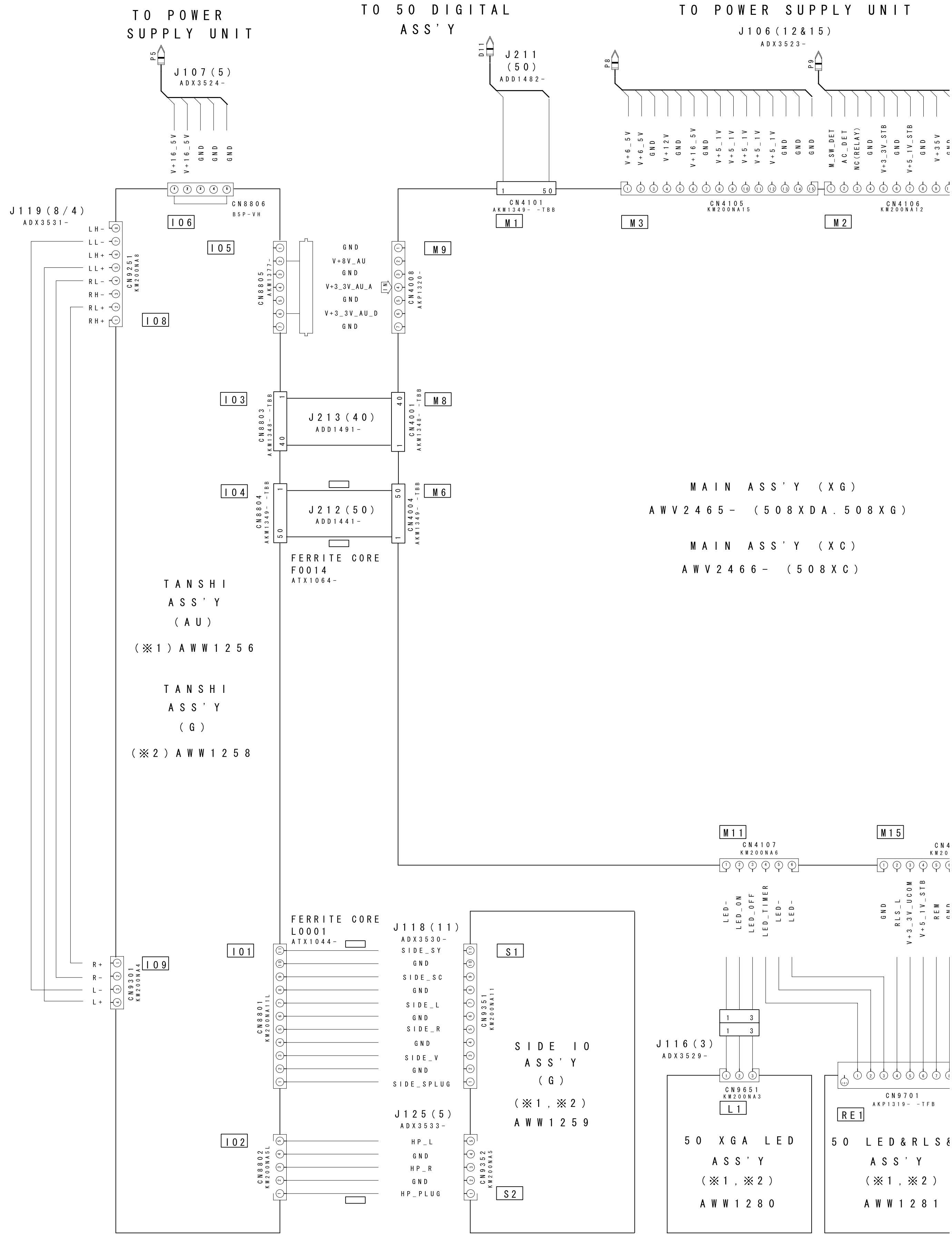
CN3001 **D11** → CN4101 **M1**

1→50.GND
2→49.LVDS_ON
3→48.REQ_MD
4→47.RXD_MD
5→46.TXD_MD
6→45.GND
7→44.GND
8→43.GND
9→42.GND
10→41.GND
11→40.GND
12→39.GND
13→38.GND
14→37.GND
15→36.GND
16→35.GND
17→34.GND
18→33.GND
19→32.GND
20→31.GND
21→30.GND
22→29.GND
23→28.GND
24→27.GND
25→26.GND
26→25.GND
27→24.LVDS_E0+
28→23.LVDS_E0-
29→22.GND
30→21.LVDS_D0+
31→20.LVDS_D0-
32→19.GND
33→18.LVDS_CLK0+
34→17.LVDS_CLK0-
35→16.GND
36→15.LVDS_C0+
37→14.LVDS_C0-
38→13.GND
39→12.LVDS_B0+
40→11.LVDS_B0-
41→10.GND
42→ 9.LVDS_A0+
43→ 8.LVDS_A0-
44→ 7.GND
45→ 6.GND
46→ 5.MSEL
47→ 4.RELAY2
48→ 3.V+3_3V_UCOM
49→ 2.MODE
50→ 1.GND

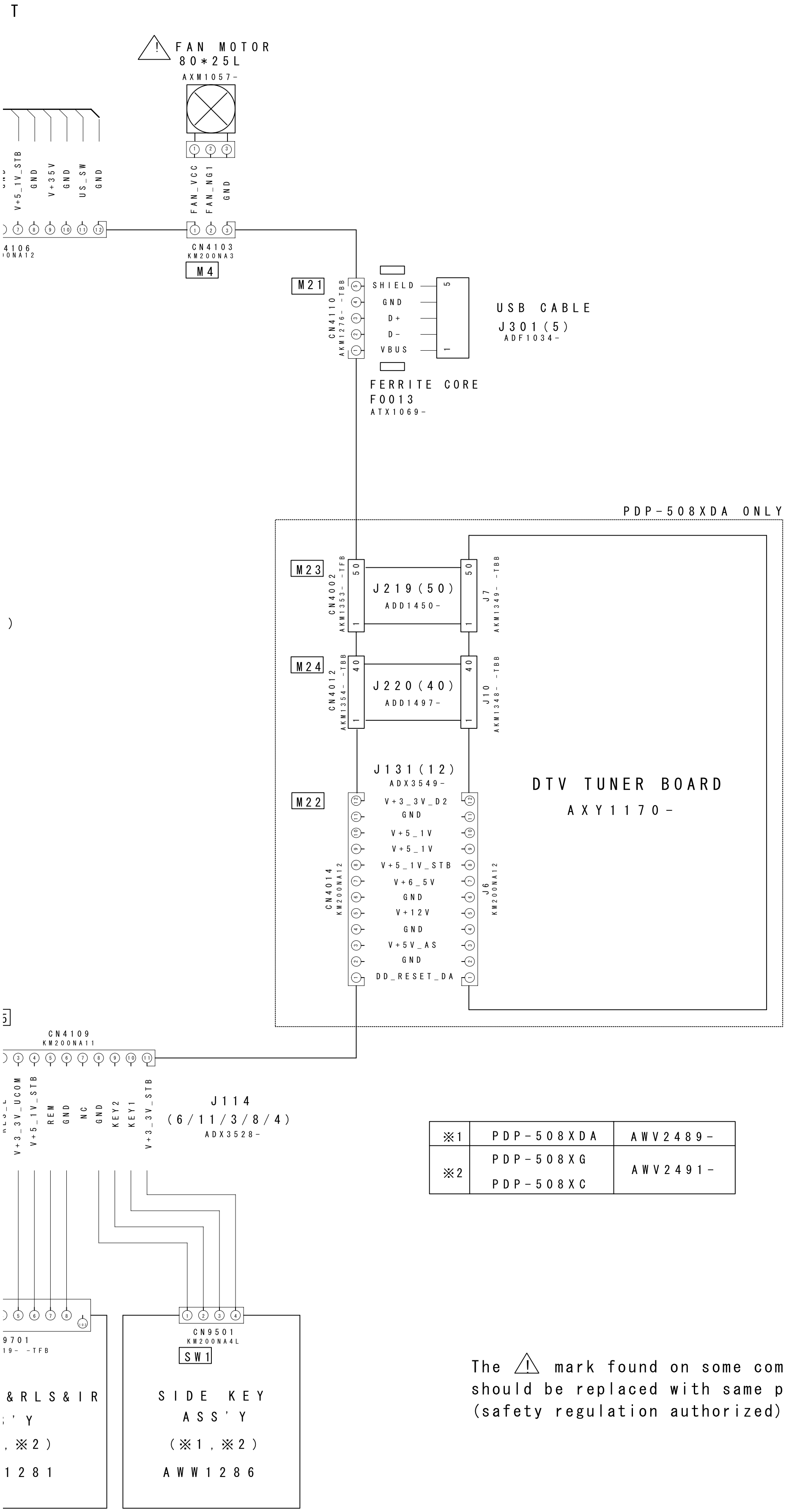
The ⚠ mark found on some component parts
should be replaced with same parts
(safety regulation authorized) of identical designation.

OVERALL DIAGRAM
PDP-508XDA
PDP-508XG
PDP-508XC

# 3.2 OVERALL WIRING DIAGRAM (2/2)



TO POWER SUPPLY UNIT
P5
J107(5)
ADX3524-
V+16_5V
V+16_5V
GND
GND
GND
CN8806
B5P-VH
I06
TO 50 DIGITAL ASS'Y
D11
J211 (50)
ADD1482-
CN4101
AKM1349- -TBB
1
50
M1
TO POWER SUPPLY UNIT
J106(12&15)
ADX3523-
P8
P9
V+6_5V
V+6_5V
GND
V+12V
GND
V+16_5V
GND
V+5_1V
V+5_1V
V+5_1V
V+5_1V
V+5_1V
GND
GND
GND
CN4105
KM200NA15
M3
M_SW_DET
AC_DET
NC(RELAY)
GND
V+3_3V_STB
GND
V+5_1V_STB
GND
V+35V
CN4106
KM200NA12
M2
J119(8/4)
ADX3531-
LH-
LL-
LH+
LL+
RL-
RH-
RL+
RH+
CN9251
KM200NA8
I05
I08
CN8805
AKM1377-
GND
V+8V_AU
GND
V+3_3V_AU_A
GND
V+3_3V_AU_D
GND
CN4008
AKP1320-
M9
I03
CN8803
AKM1348- -TBB
J213(40)
ADD1491-
CN4001
AKM1348- -TBB
1
40
40
1
M8
I04
CN8804
AKM1349- -TBB
J212(50)
ADD1441-
CN4004
AKM1349- -TBB
1
50
50
1
M6
FERRITE CORE
F0014
ATX1064-
MAIN ASS'Y (XG)
AWV2465- (508XDA.508XG)
MAIN ASS'Y (XC)
AWV2466- (508XC)
TANSHI ASS'Y (AU)
(※1) AWW1256
TANSHI ASS'Y (G)
(※2) AWW1258
M11
CN4107
KM200NA6
M15
CN4
KM20
LED-
LED_ON
LED_OFF
LED_TIMER
LED-
LED-
GND
RLS_L
V+3_3V_UCOM
V+5_1V_STB
REM
R+
R-
L-
L+
CN9301
KM200NA4
I09
FERRITE CORE
L0001
ATX1044-
I01
CN8801
KM200NA11L
J118(11)
ADX3530-
SIDE_SY
GND
SIDE_SC
GND
SIDE_L
GND
SIDE_R
GND
SIDE_V
GND
SIDE_SPLUG
CN9351
KM200NA11
S1
SIDE IO ASS'Y (G)
(※1, ※2)
AWW1259
J125(5)
ADX3533-
I02
CN8802
KM200NA5L
HP_L
GND
HP_R
GND
HP_PLUG
CN9352
KM200NA5
S2
J116(3)
ADX3529-
1 3
1 3
CN9651
KM200NA3
L1
50 XGA LED ASS'Y
(※1, ※2)
AWW1280
CN9701
AKP1319- -TFB
RE1
50 LED&RLS&
ASS'Y
(※1, ※2)
AWW1281


T
FAN MOTOR
80*25L
AXM1057-
FAN_VCC
FAN_NG1
GND
V+5_1V_STB
GND
V+35V
GND
US_SW
GND
4106
0NA12
CN4103
KM200NA3
M4
M21
CN4110
AKM1276- -TBB
SHIELD
GND
D+
D-
VBUS
5
1
USB CABLE
J301(5)
ADF1034-
FERRITE CORE
F0013
ATX1069-
PDP-508XDA ONLY
M23
CN4002
AKM1353- -TFB
50
1
J219(50)
ADD1450-
J7
AKM1349- -TBB
M24
CN4012
AKM1354- -TBB
40
J220(40)
ADD1497-
J10
AKM1348- -TBB
J131(12)
ADX3549-
M22
CN4014
KM200NA12
J6
KM200NA12
V+3_3V_D2
GND
V+5_1V
V+5_1V
V+5_1V_STB
V+6_5V
GND
V+12V
GND
V+5V_AS
GND
DD_RESET_DA
DTV TUNER BOARD
AXY1170-
)
5
CN4109
KM200NA11
V+3_3V_UCOM
V+5_1V_STB
REM
GND
NC
GND
KEY2
KEY1
V+3_3V_STB
J114
(6/11/3/8/4)
ADX3528-
9701
19- -TFB
&RLS&IR
S'Y
,※2)
1281
CN9501
KM200NA4L
SW1
SIDE KEY
ASS'Y
(※1,※2)
AWW1286

|  |  |  |
|---|---|---|
| ※1 | PDP-508XDA | AWV2489- |
| ※2 | PDP-508XG<br>PDP-508XC | AWV2491- |

## CONNECTOR PIN ASSIGN

### CN4004 M6 → CN8804 I04

1→50. GND
2→49. TEMP2
3→48. V+3_3V_UCOM
4→47. SIDE_SPLUG
5→46. SIDE_S2
6→45. SIDE_V
7→44. GND
8→43. SIDE_SY
9→42. GND
10→41. SIDE_SC
11→40. GND
12→39. INPUT1_V
13→38. GND
14→37. MON_OUT
15→36. GND
16→35. INPUT1_SY
17→34. NC
18→33. GND
19→32. INPUT2_V
20→31. GND
21→30. INPUT2_SC
22→29. GND
23→28. INPUT3_V
24→27. GND
25→26. INPUT3_SC
26→25. GND
27→24. INPUT1_SC
28→23. GND
29→22. INPUT2_SY
30→21. GND
31→20. INPUT3_SY
32→19. GND
33→18. INPUT2_Y
34→17. GND
35→16. INPUT2_Pb
36→15. GND
37→14. INPUT2_Pr
38→13. GND
39→12. INPUT1_Y
40→11. GND
41→10. INPUT1_Pb
42→ 9. GND
43→ 8. INPUT1_Pr
44→ 7. GND
45→ 6. AIR_R
46→ 5. GND
47→ 4. AIR_L
48→ 3. GND
49→ 2. AIR_SIF
50→ 1. GND

### CN4001 M8 → CN8803 I03

1→40. V+5V_A
2→39. NC
3→38. V+3_3V_STB
4→37. NC
5→36. GND
6→35. AIR_SIF
7→34. GND
8→33. INPUT2_PLUG
9→32. INPUT1_PLUG
10→31. NC
11→30. INPUT1_SPLUG
12→29. INPUT2_SPLUG
13→28. INPUT3_SPLUG
14→27. HP_PLUG
15→26. NC
16→25. NC
17→24. MON_MUTE
18→23. NC
19→22. AC_HP_MUTE
20→21. NC
21→20. NC
22→19. GND
23→18. SPDIF_EMMA(DTB)
24→17. GND
25→16. I2S_SDATA_HDMI
26→15. I2S_LRCLK_HDMI
27→14. I2S_BCLK_HDMI
28→13. GND
29→12. I2S_BCLK_EMMA(DTB)
30→11. I2S_LRCLK_EMMA(DTB)
31→10. I2S_SDATA_EMMA(DTB)
32→ 9. GND
33→ 8. SCL_AV
34→ 7. SDA_AV
35→ 6. AC_A_MUTE
36→ 5. RST_MSP
37→ 4. OTW
38→ 3. A_NG_B
39→ 2. IO_DET
40→ 1. GND

### CN4002 M23 → J7

1. GND
2. TXD_DT
3. RXD_DT
4. GND
5. NC
6. CLK_DT_N
7. CLK_DT
8. GND
9. Y7_DT
10. Y6_DT
11. GND
12. Y5_DT
13. Y4_DT
14. GND
15. Y3_DT
16. Y2_DT
17. GND
18. Y1_DT
19. Y0_DT
20. GND
21. CB7_DT
22. CB6_DT
23. GND
24. CB5_DT
25. CB4_DT
26. GND
27. CB3_DT
28. CB2_DT
29. GND
30. CB1_DT
31. CB0_DT
33. GND
33. CR7_DT
34. CR6_DT
35. GND
36. CR5_DT
37. CR4_DT
38. GND
39. CR3_DT
40. CR2_DT
41. GND
42. CR1_DT
43. CR0_DT
44. GND
45. DE_DT
46. GND
47. VD_DT
48. GND
49. HD_DT
50. GND

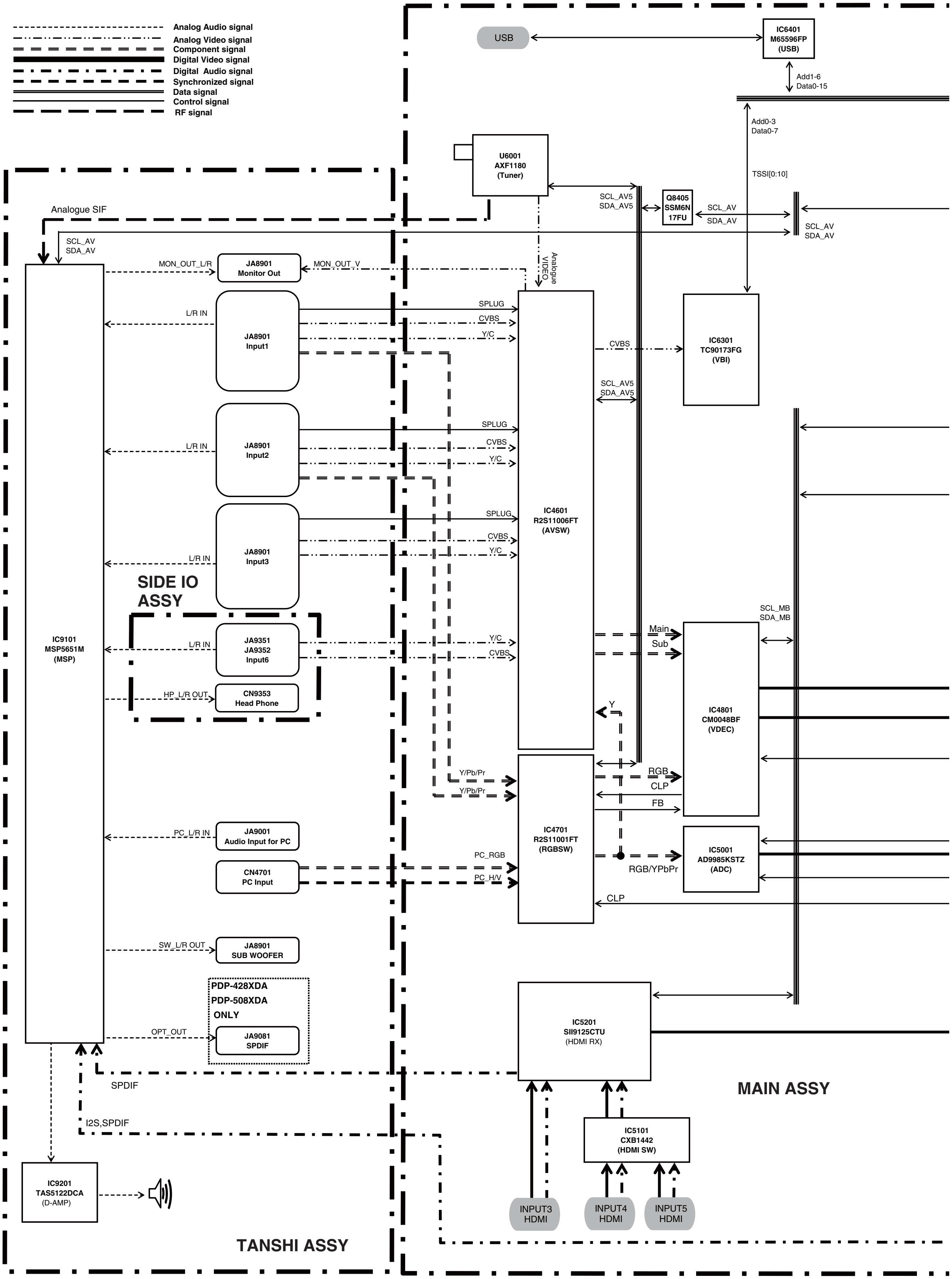
### CN4012 M24 → J10

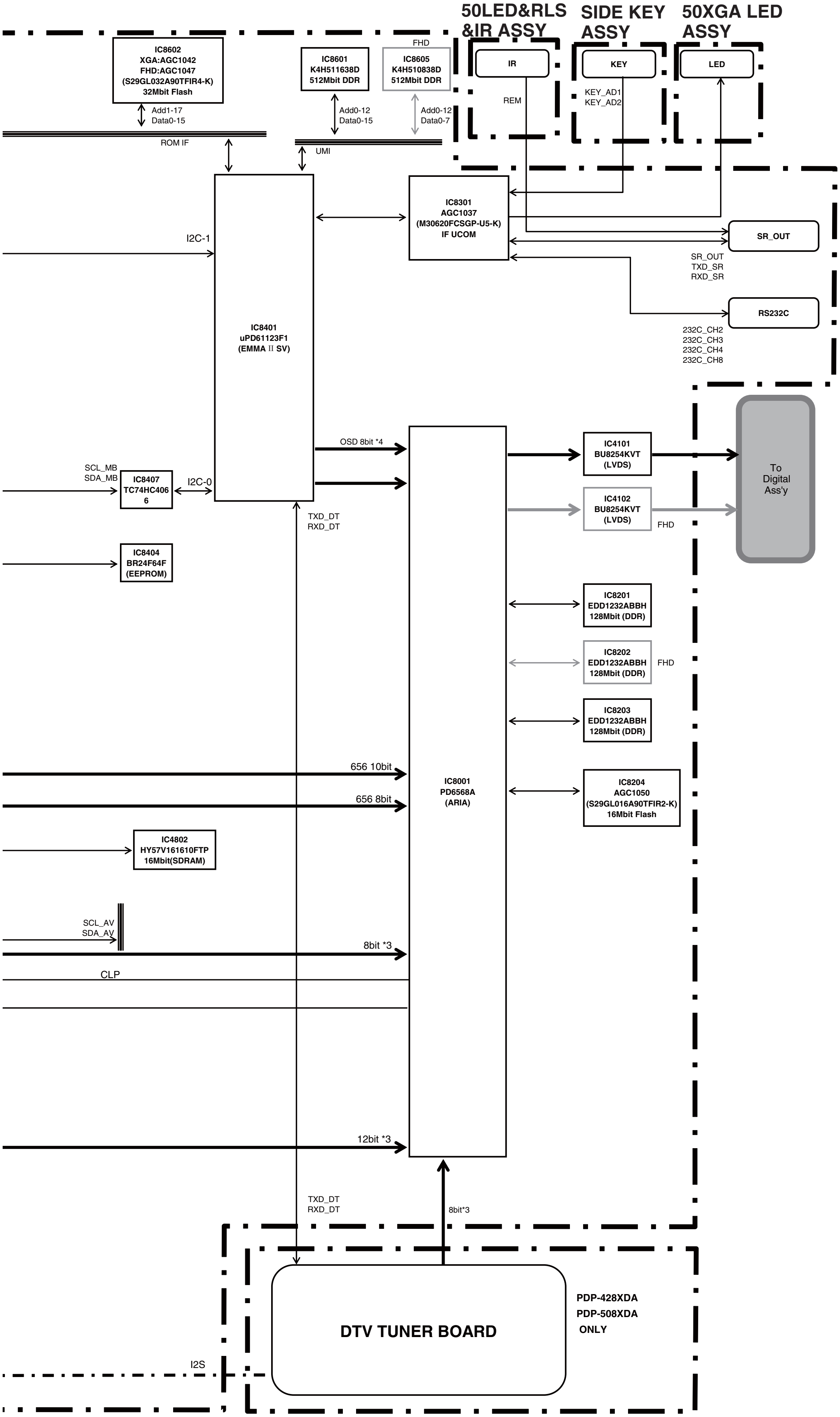
1. GND
2. DT_MON_V_HDDTB
3. GND
4. GND
5. GND
6. GND
7. NC
8. GND
9. NC
10. GND
11. NC
12. GND
13. NC
14. GND
15. GND
16. GND
17. GND
18. GND
19. GND
20. GND
21. GND
22. GND
23. GND
24. SPDIF_HDDTB
25. GND
26. I2S_BCLK_HDDTB
27. NC
28. I2S_LRCLK_HDDTB
29. GND
30. I2S_SDATA_HDDTB
31. GND
32. GND
33. GND
34. GND
35. GND
36. ANT_POW_EU
37. POW_DET
38. RST_DT
39. DT_DET
40. GND

The ⚠ mark found on some component parts
should be replaced with same parts
(safety regulation authorized) of identical designation.

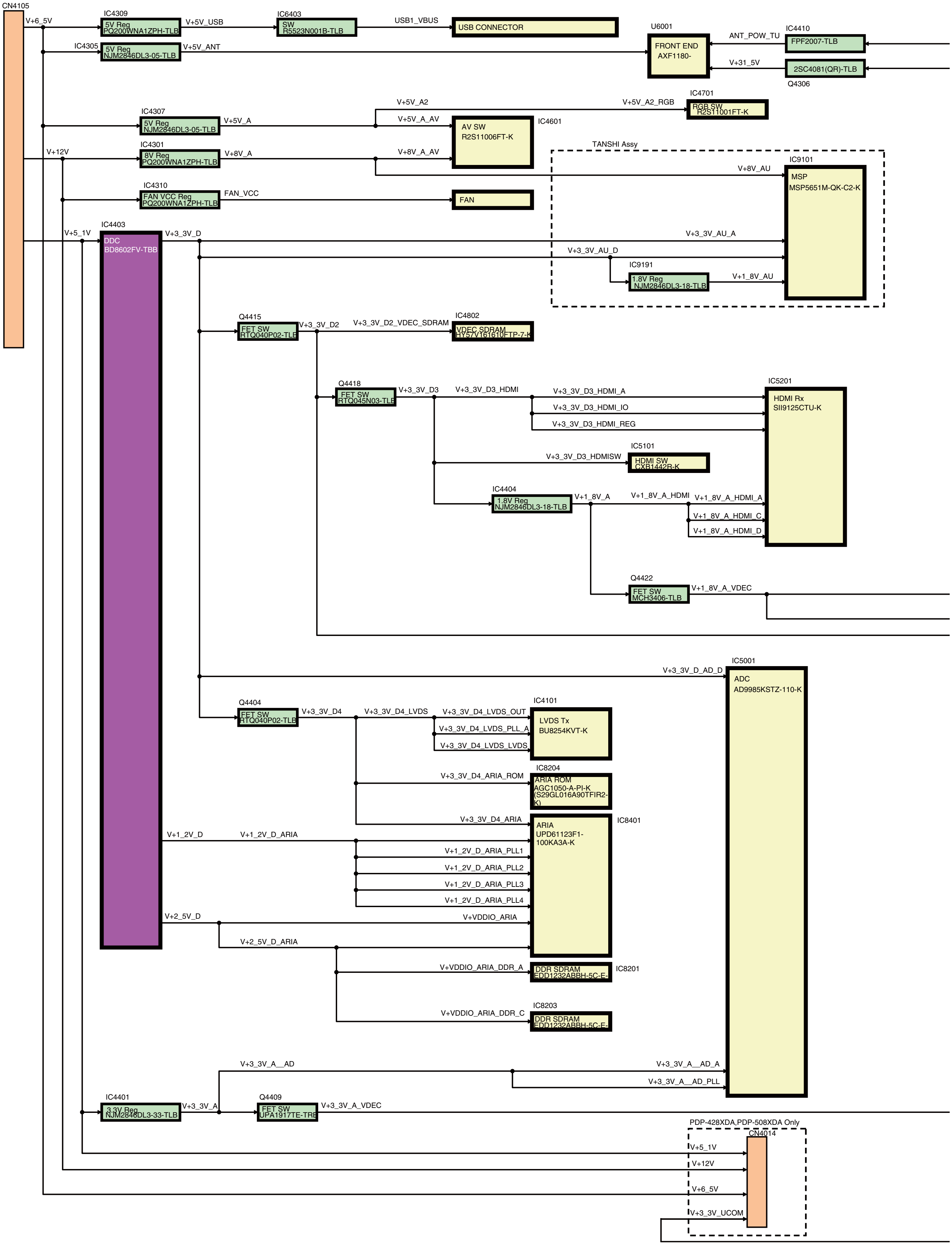
OVERALL DIAGRAM
PDP-508XDA
PDP-508XG
PDP-508XC

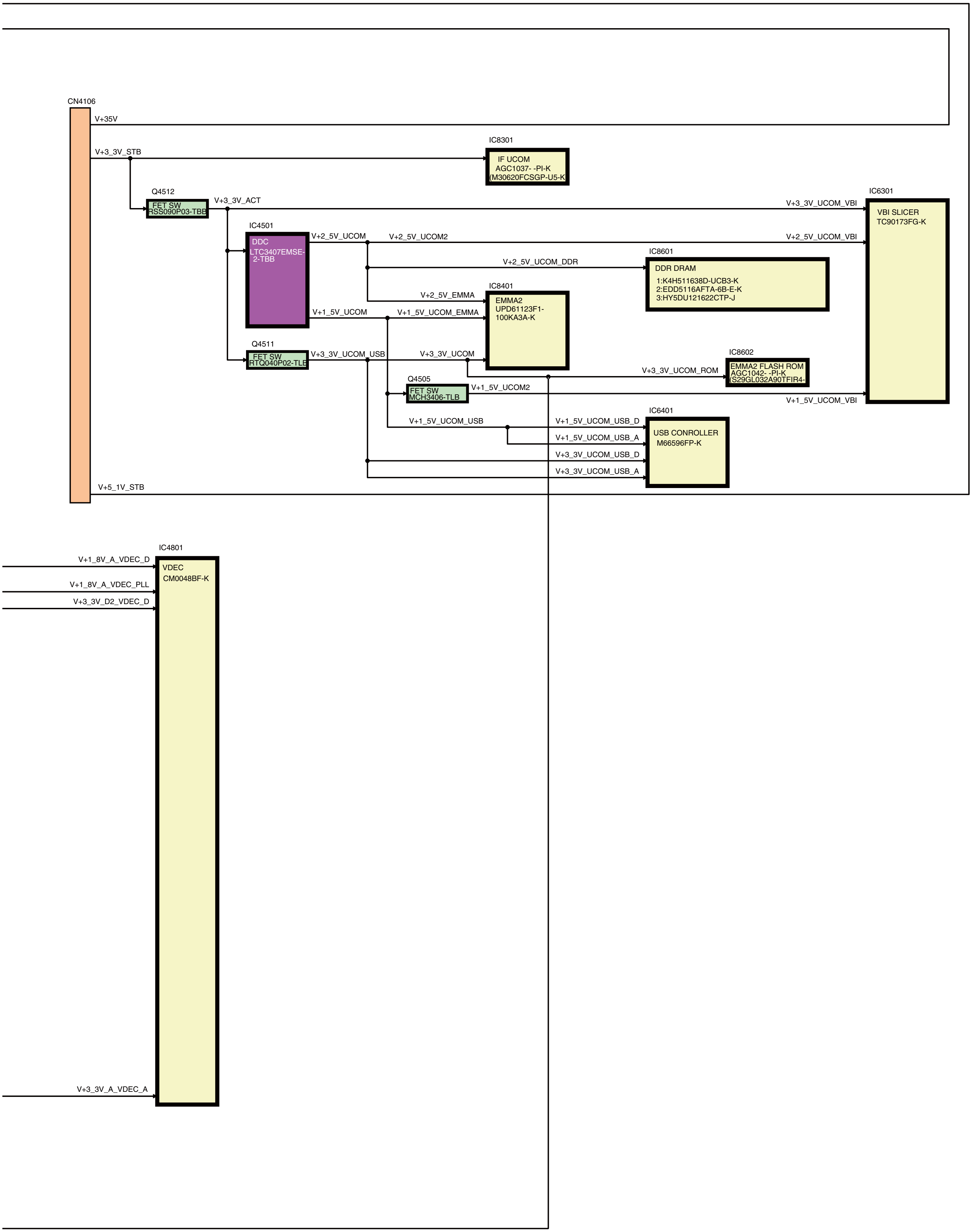
# 3.3 OVERALL BLOCK DIAGRAM


Analog Audio signal
Analog Video signal
Component signal
Digital Video signal
Digital Audio signal
Synchronized signal
Data signal
Control signal
RF signal
USB
IC6401
M65596FP
(USB)
Add1-6
Data0-15
Add0-3
Data0-7
TSSI[0:10]
U6001
AXF1180
(Tuner)
SCL_AV5
SDA_AV5
Q8405
SSM6N
17FU
SCL_AV
SDA_AV
SCL_AV
SDA_AV
Analogue SIF
SCL_AV
SDA_AV
Analogue VIDEO
MON_OUT_L/R
JA8901
Monitor Out
MON_OUT_V
L/R IN
JA8901
Input1
SPLUG
CVBS
Y/C
CVBS
IC6301
TC90173FG
(VBI)
SCL_AV5
SDA_AV5
L/R IN
JA8901
Input2
SPLUG
CVBS
Y/C
L/R IN
JA8901
Input3
SPLUG
CVBS
Y/C
IC4601
R2S11006FT
(AVSW)
SIDE IO
ASSY
IC9101
MSP5651M
(MSP)
L/R IN
JA9351
JA9352
Input6
Y/C
CVBS
HP_L/R OUT
CN9353
Head Phone
SCL_MB
SDA_MB
Main
Sub
IC4801
CM0048BF
(VDEC)
Y
Y/Pb/Pr
Y/Pb/Pr
RGB
CLP
FB
IC4701
R2S11001FT
(RGBSW)
PC_L/R IN
JA9001
Audio Input for PC
PC_RGB
CN4701
PC Input
PC_H/V
IC5001
AD9985KSTZ
(ADC)
RGB/YPbPr
CLP
SW_L/R OUT
JA8901
SUB WOOFER
PDP-428XDA
PDP-508XDA
ONLY
OPT_OUT
JA9081
SPDIF
IC5201
SII9125CTU
(HDMI RX)
SPDIF
MAIN ASSY
I2S,SPDIF
IC5101
CXB1442
(HDMI SW)
IC9201
TAS5122DCA
(D-AMP)
INPUT3
HDMI
INPUT4
HDMI
INPUT5
HDMI
TANSHI ASSY


50LED&RLS &IR ASSY
SIDE KEY ASSY
50XGA LED ASSY
IR
REM
KEY
KEY_AD1
KEY_AD2
LED
IC8602
XGA:AGC1042
FHD:AGC1047
(S29GL032A90TFIR4-K)
32Mbit Flash
Add1-17
Data0-15
ROM IF
IC8601
K4H511638D
512Mbit DDR
Add0-12
Data0-15
FHD
IC8605
K4H510838D
512Mbit DDR
Add0-12
Data0-7
UMI
IC8301
AGC1037
(M30620FCSGP-U5-K)
IF UCOM
SR_OUT
SR_OUT
TXD_SR
RXD_SR
RS232C
232C_CH2
232C_CH3
232C_CH4
232C_CH8
I2C-1
IC8401
uPD61123F1
(EMMA II SV)
OSD 8bit *4
SCL_MB
SDA_MB
IC8407
TC74HC4066
I2C-0
TXD_DT
RXD_DT
IC8404
BR24F64F
(EEPROM)
IC4101
BU8254KVT
(LVDS)
IC4102
BU8254KVT
(LVDS)
FHD
To Digital Ass'y
IC8201
EDD1232ABBH
128Mbit (DDR)
IC8202
EDD1232ABBH
128Mbit (DDR)
FHD
IC8203
EDD1232ABBH
128Mbit (DDR)
IC8204
AGC1050
(S29GL016A90TFIR2-K)
16Mbit Flash
656 10bit
656 8bit
IC8001
PD6568A
(ARIA)
IC4802
HY57V161610FTP
16Mbit(SDRAM)
SCL_AV
SDA_AV
8bit *3
CLP
12bit *3
TXD_DT
RXD_DT
8bit*3
DTV TUNER BOARD
PDP-428XDA
PDP-508XDA
ONLY
I2S

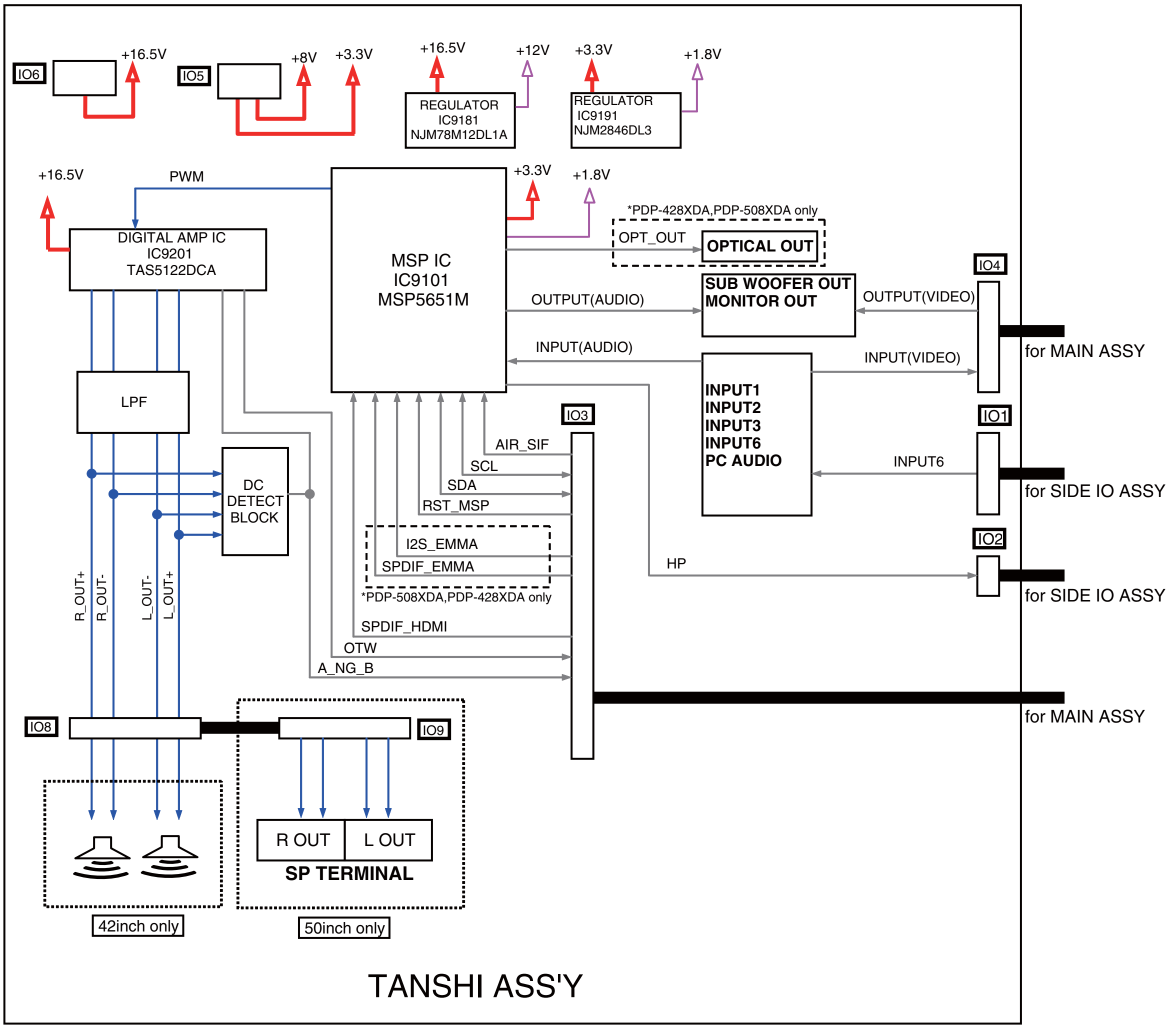
## 3.4 POWER SUPPLY BLOCK of MULTI BASE SECTION


A
B
C
D
E
F
CN4105
V+6_5V
IC4309
5V Reg
PQ200WNA1ZPH-TLB
V+5V_USB
IC6403
SW
R5523N001B-TLB
USB1_VBUS
USB CONNECTOR
IC4305
5V Reg
NJM2846DL3-05-TLB
V+5V_ANT
U6001
FRONT END
AXF1180-
ANT_POW_TU
IC4410
FPF2007-TLB
V+31_5V
2SC4081(QR)-TLB
Q4306
V+5V_A2
V+5V_A2_RGB
IC4701
RGB SW
R2S11001FT-K
IC4307
5V Reg
NJM2846DL3-05-TLB
V+5V_A
V+5V_A_AV
AV SW
R2S11006FT-K
IC4601
TANSHI Assy
V+12V
IC4301
8V Reg
PQ200WNA1ZPH-TLB
V+8V_A
V+8V_A_AV
IC9101
V+8V_AU
MSP
MSP5651M-QK-C2-K
IC4310
FAN VCC Reg
PQ200WNA1ZPH-TLB
FAN_VCC
FAN
IC4403
V+5_1V
DDC
BD8602FV-TBB
V+3_3V_D
V+3_3V_AU_A
V+3_3V_AU_D
IC9191
1.8V Reg
NJM2846DL3-18-TLB
V+1_8V_AU
Q4415
FET SW
RTQ040P02-TLB
V+3_3V_D2
V+3_3V_D2_VDEC_SDRAM
IC4802
VDEC SDRAM
HY57V161610FTP-7-K
Q4418
FET SW
RTQ045N03-TLB
V+3_3V_D3
V+3_3V_D3_HDMI
V+3_3V_D3_HDMI_A
V+3_3V_D3_HDMI_IO
V+3_3V_D3_HDMI_REG
IC5201
HDMI Rx
SII9125CTU-K
IC5101
V+3_3V_D3_HDMISW
HDMI SW
CXB1442R-K
IC4404
1.8V Reg
NJM2846DL3-18-TLB
V+1_8V_A
V+1_8V_A_HDMI
V+1_8V_A_HDMI_A
V+1_8V_A_HDMI_C
V+1_8V_A_HDMI_D
Q4422
FET SW
MCH3406-TLB
V+1_8V_A_VDEC
IC5001
V+3_3V_D_AD_D
ADC
AD9985KSTZ-110-K
Q4404
FET SW
RTQ040P02-TLB
V+3_3V_D4
V+3_3V_D4_LVDS
V+3_3V_D4_LVDS_OUT
IC4101
LVDS Tx
BU8254KVT-K
V+3_3V_D4_LVDS_PLL_A
V+3_3V_D4_LVDS_LVDS
IC8204
V+3_3V_D4_ARIA_ROM
ARIA ROM
AGC1050-A-PI-K
(S29GL016A90TFIR2-K)
V+3_3V_D4_ARIA
IC8401
ARIA
UPD61123F1-100KA3A-K
V+1_2V_D
V+1_2V_D_ARIA
V+1_2V_D_ARIA_PLL1
V+1_2V_D_ARIA_PLL2
V+1_2V_D_ARIA_PLL3
V+1_2V_D_ARIA_PLL4
V+2_5V_D
V+VDDIO_ARIA
V+2_5V_D_ARIA
V+VDDIO_ARIA_DDR_A
DDR SDRAM
EDD1232ABBH-5C-E-
IC8201
IC8203
V+VDDIO_ARIA_DDR_C
DDR SDRAM
EDD1232ABBH-5C-E-
V+3_3V_A__AD
V+3_3V_A__AD_A
V+3_3V_A__AD_PLL
IC4401
3.3V Reg
NJM2846DL3-33-TLB
V+3_3V_A
Q4409
FET SW
UPA1917TE-TRE
V+3_3V_A_VDEC
PDP-428XDA,PDP-508XDA Only
CN4014
V+5_1V
V+12V
V+6_5V
V+3_3V_UCOM

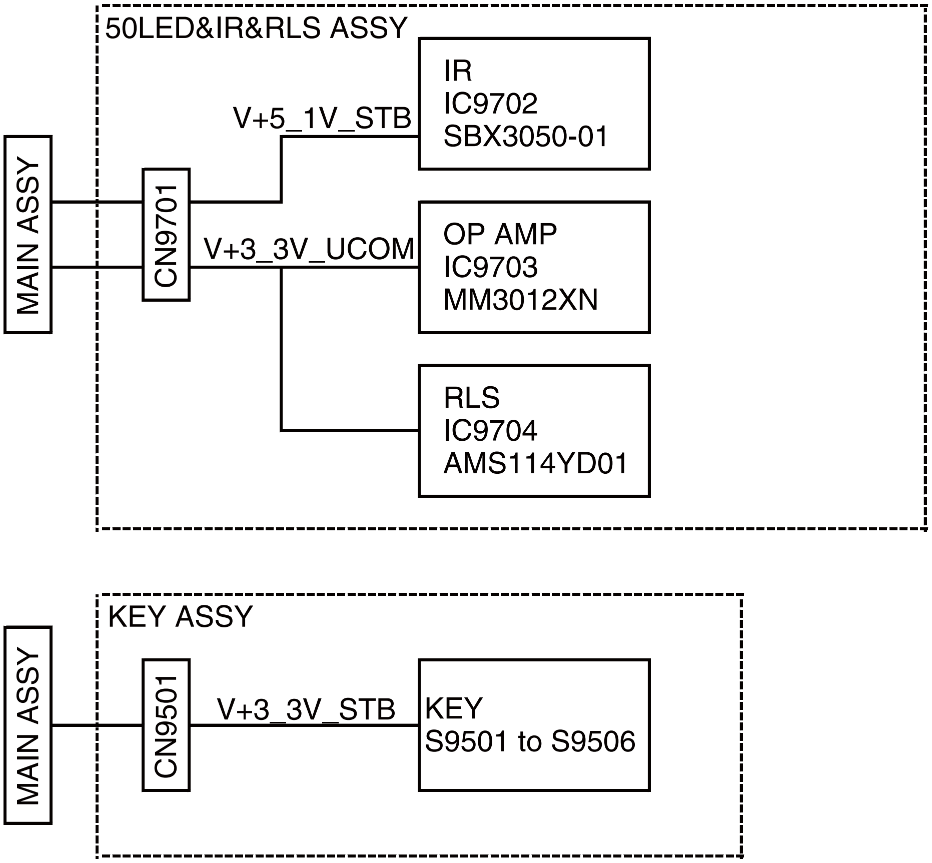

CN4106
V+35V
V+3_3V_STB
IC8301
IF UCOM
AGC1037- -PI-K
(M30620FCSGP-U5-K
Q4512
FET SW
RSS090P03-TBB
V+3_3V_ACT
V+3_3V_UCOM_VBI
IC6301
VBI SLICER
TC90173FG-K
IC4501
DDC
LTC3407EMSE-
2-TBB
V+2_5V_UCOM
V+2_5V_UCOM2
V+2_5V_UCOM_VBI
IC8601
V+2_5V_UCOM_DDR
DDR DRAM
1:K4H511638D-UCB3-K
2:EDD5116AFTA-6B-E-K
3:HY5DU121622CTP-J
IC8401
V+2_5V_EMMA
EMMA2
UPD61123F1-
100KA3A-K
V+1_5V_UCOM
V+1_5V_UCOM_EMMA
Q4511
FET SW
RTQ040P02-TLB
V+3_3V_UCOM_USB
V+3_3V_UCOM
IC8602
EMMA2 FLASH ROM
AGC1042- -PI-K
(S29GL032A90TFIR4-
V+3_3V_UCOM_ROM
Q4505
FET SW
MCH3406-TLB
V+1_5V_UCOM2
V+1_5V_UCOM_VBI
IC6401
V+1_5V_UCOM_USB
V+1_5V_UCOM_USB_D
V+1_5V_UCOM_USB_A
V+3_3V_UCOM_USB_D
V+3_3V_UCOM_USB_A
USB CONROLLER
M66596FP-K
V+5_1V_STB
IC4801
V+1_8V_A_VDEC_D
V+1_8V_A_VDEC_PLL
V+3_3V_D2_VDEC_D
VDEC
CM0048BF-K
V+3_3V_A_VDEC_A

## 3.5 TANSHI ASSY

TANSHI ASSY XGA BLOCK DIAGRAM


IO6
+16.5V
IO5
+8V
+3.3V
+16.5V
+12V
REGULATOR
IC9181
NJM78M12DL1A
+3.3V
+1.8V
REGULATOR
IC9191
NJM2846DL3
+16.5V
PWM
DIGITAL AMP IC
IC9201
TAS5122DCA
MSP IC
IC9101
MSP5651M
+3.3V
+1.8V
*PDP-428XDA,PDP-508XDA only
OPT_OUT
OPTICAL OUT
IO4
SUB WOOFER OUT
MONITOR OUT
OUTPUT(AUDIO)
OUTPUT(VIDEO)
for MAIN ASSY
INPUT(AUDIO)
INPUT(VIDEO)
LPF
IO3
IO1
INPUT1
INPUT2
INPUT3
INPUT6
PC AUDIO
INPUT6
for SIDE IO ASSY
AIR_SIF
SCL
SDA
RST_MSP
DC
DETECT
BLOCK
I2S_EMMA
SPDIF_EMMA
*PDP-508XDA,PDP-428XDA only
IO2
HP
for SIDE IO ASSY
R_OUT+
R_OUT-
L_OUT-
L_OUT+
SPDIF_HDMI
OTW
A_NG_B
for MAIN ASSY
IO8
IO9
R OUT
L OUT
SP TERMINAL
42inch only
50inch only
TANSHI ASS'Y

## 3.6 POWER SUPPLY BLOCK of 50LED&IR&RLS and SIDE KEY ASSYS


50LED&IR&RLS ASSY
MAIN ASSY
CN9701
V+5_1V_STB
V+3_3V_UCOM
IR
IC9702
SBX3050-01
OP AMP
IC9703
MM3012XN
RLS
IC9704
AMS114YD01
KEY ASSY
MAIN ASSY
CN9501
V+3_3V_STB
KEY
S9501 to S9506

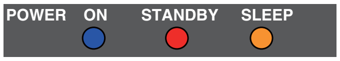
# 4. DIAGNOSIS

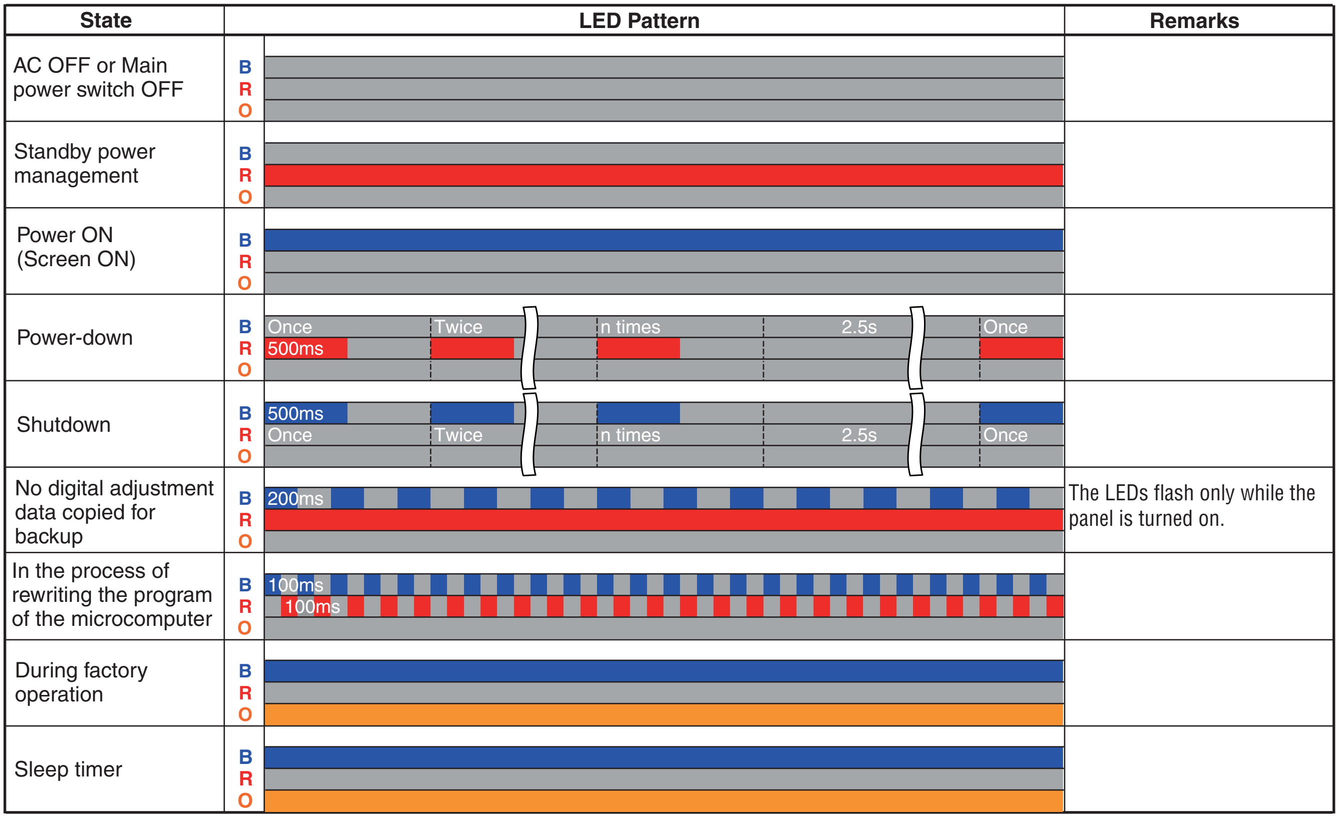
DIAGNOSIS of PDP-508XG/DLFT,PDP-508XDA/YP and PDP-508XC/WA5 is the same as PDP-5080XA/WYV5 except for the following:

## 4.1 POWER SUPPLY OPERATION

### 4.1.1 LED DISPLAY INFORMATION

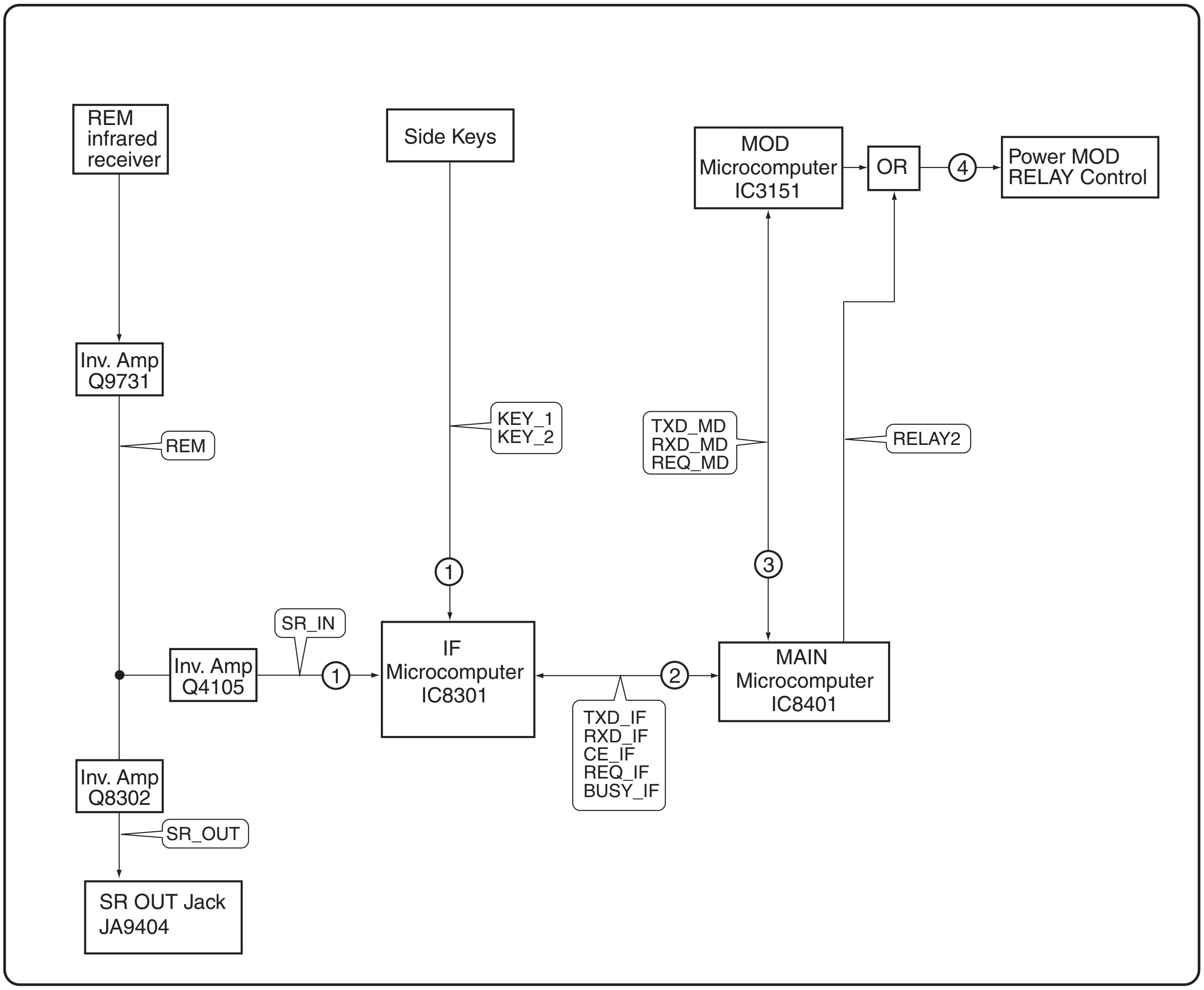
**LED Pattern**





| State | LED Pattern | Remarks |
|---|---|---|
| AC OFF or Main power switch OFF | B<br>R<br>O | |
| Standby power management | B<br>R 🟥<br>O | |
| Power ON (Screen ON) | B 🟦<br>R<br>O | |
| Power-down | B Once / Twice / n times / 2.5s / Once<br>R 500ms 🟥<br>O | |
| Shutdown | B 500ms 🟦<br>R Once / Twice / n times / 2.5s / Once<br>O | |
| No digital adjustment data copied for backup | B 200ms 🟦<br>R 🟥<br>O | The LEDs flash only while the panel is turned on. |
| In the process of rewriting the program of the microcomputer | B 100ms 🟦<br>R 100ms 🟥<br>O | |
| During factory operation | B 🟦<br>R<br>O 🟧 | |
| Sleep timer | B 🟦<br>R<br>O 🟧 | |

## 4.1.2 POWER ON SEQUENCE


REM infrared receiver
Side Keys
MOD Microcomputer IC3151
OR
④
Power MOD RELAY Control
Inv. Amp Q9731
KEY_1
KEY_2
TXD_MD
RXD_MD
REQ_MD
RELAY2
REM
①
③
SR_IN
IF Microcomputer IC8301
MAIN Microcomputer IC8401
Inv. Amp Q4105
①
②
TXD_IF
RXD_IF
CE_IF
REQ_IF
BUSY_IF
Inv. Amp Q8302
SR_OUT
SR OUT Jack JA9404

① : The remote control (or KEY) signal is input to the IF microcomputer.
② : The IF microcomputer sends the operation data of the remote control unit (or KEY) to the main microcomputer.
③ : The main microcomputer issues a startup command (PON) to the MOD microcomputer.
④ : The relay is controlled with logical OR interpretation of control signals by the main microcomputer and module (MOD) microcomputer.

## 4.1.3 DETAILS OF POWER ON SEQUENCE

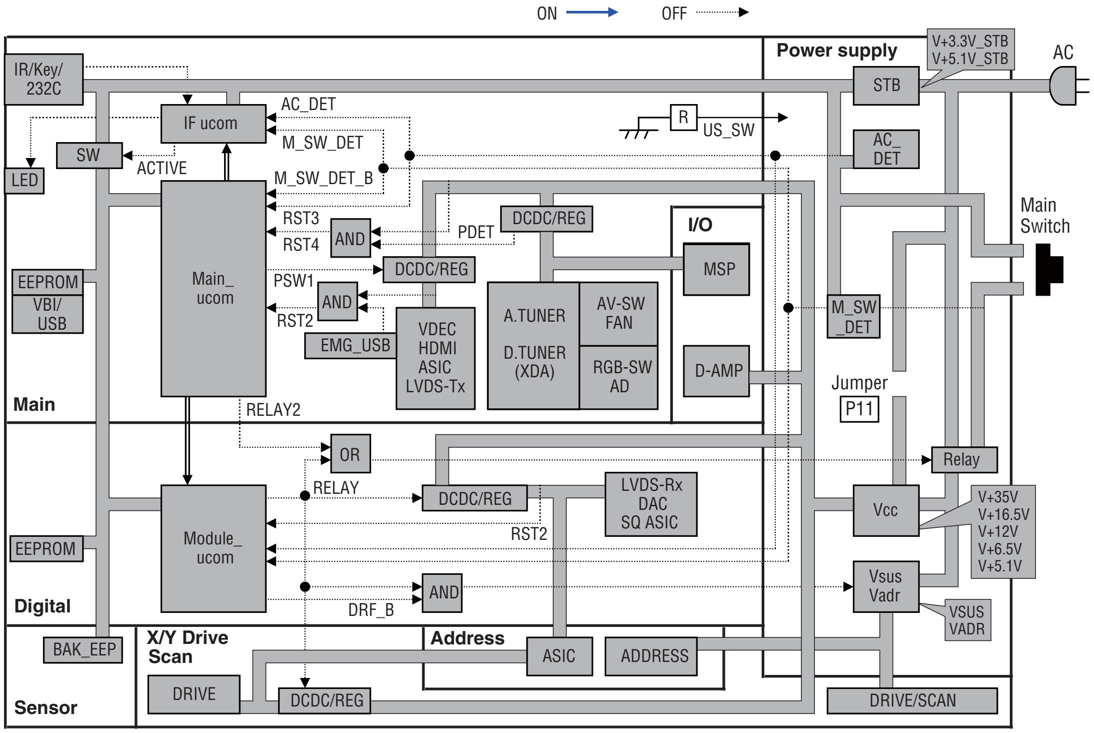
### Power supply status - AC off

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | OFF |
| Main: RELAY2 | OFF |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | OFF |
| Main: RST2 | OFF |
| Module: RST2 | OFF |


ON
OFF
IR/Key/ 232C
SW
LED
IF ucom
AC_DET
M_SW_DET
M_SW_DET_B
ACTIVE
Main_ ucom
RST3
RST4
AND
PSW1
RST2
EMG_USB
EEPROM
VBI/ USB
DCDC/REG
PDET
VDEC HDMI ASIC LVDS-Tx
A.TUNER
D.TUNER (XDA)
AV-SW FAN
RGB-SW AD
I/O
MSP
D-AMP
Main
R
US_SW
Power supply
V+3.3V_STB V+5.1V_STB
STB
AC
AC_ DET
Main Switch
M_SW _DET
Jumper
P11
Relay
RELAY2
OR
RELAY
Module_ ucom
LVDS-Rx DAC SQ ASIC
RST2
DRF_B
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
Vsus Vadr
VSUS VADR
Digital
BAK_EEP
X/Y Drive Scan
DRIVE
Address
ASIC
ADDRESS
DRIVE/SCAN
Sensor

The state of AC cord is pulled out.

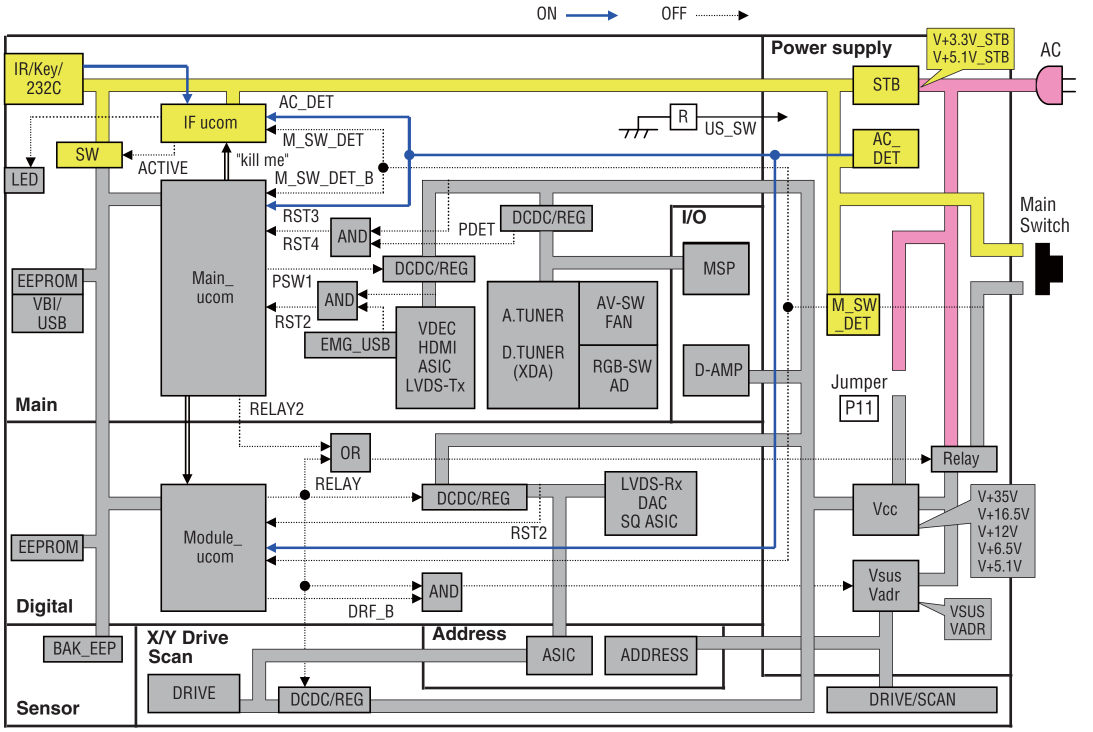
### Power supply status - Passive standby (Main switch off)

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | OFF |
| Main: RELAY2 | OFF |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | OFF |
| Main: RST2 | OFF |
| Module: RST2 | OFF |


ON
OFF
IR/Key/ 232C
SW
LED
IF ucom
AC_DET
M_SW_DET
"kill me"
M_SW_DET_B
ACTIVE
Main_ ucom
RST3
RST4
AND
PSW1
RST2
EMG_USB
EEPROM
VBI/ USB
DCDC/REG
PDET
VDEC HDMI ASIC LVDS-Tx
A.TUNER
D.TUNER (XDA)
AV-SW FAN
RGB-SW AD
I/O
MSP
D-AMP
Main
R
US_SW
Power supply
V+3.3V_STB V+5.1V_STB
STB
AC
AC_ DET
Main Switch
M_SW _DET
Jumper
P11
Relay
RELAY2
OR
RELAY
Module_ ucom
LVDS-Rx DAC SQ ASIC
RST2
DRF_B
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
Vsus Vadr
VSUS VADR
Digital
BAK_EEP
X/Y Drive Scan
DRIVE
Address
ASIC
ADDRESS
DRIVE/SCAN
Sensor

The user operation is invalid. (All LED: OFF)
Among standby power devices, only the IF microcomputer periphery operates.

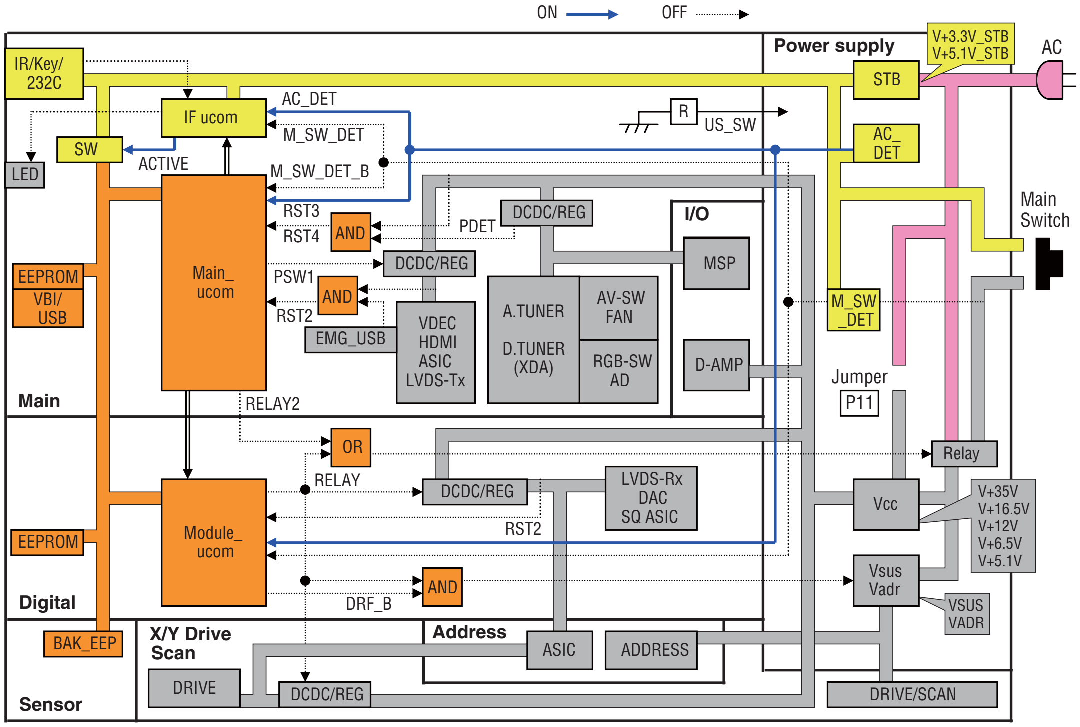
## Power supply status - Active standby (Main switch off)

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | **ON** |
| Main: RELAY2 | OFF |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | OFF |
| Main: RST2 | OFF |
| Module: RST2 | OFF |



ON
OFF
IR/Key/232C
Power supply
V+3.3V_STB
V+5.1V_STB
AC
STB
IF ucom
AC_DET
M_SW_DET
R
US_SW
SW
ACTIVE
AC_DET
LED
M_SW_DET_B
Main Switch
RST3
RST4
AND
PDET
DCDC/REG
I/O
MSP
EEPROM
VBI/USB
Main_ucom
DCDC/REG
PSW1
AND
RST2
EMG_USB
VDEC HDMI ASIC LVDS-Tx
A.TUNER
D.TUNER (XDA)
AV-SW FAN
RGB-SW AD
D-AMP
M_SW_DET
Jumper
P11
Main
RELAY2
OR
Relay
RELAY
DCDC/REG
LVDS-Rx DAC SQ ASIC
Vcc
V+35V
V+16.5V
V+12V
V+6.5V
V+5.1V
EEPROM
Module_ucom
RST2
AND
DRF_B
Vsus Vadr
VSUS VADR
Digital
BAK_EEP
X/Y Drive Scan
Address
ASIC
ADDRESS
DRIVE
DCDC/REG
DRIVE/SCAN
Sensor

The user operation is invalid. (All LED: OFF)
Standby power devices (periphery of IF/Main/Module microcomputer) operate.

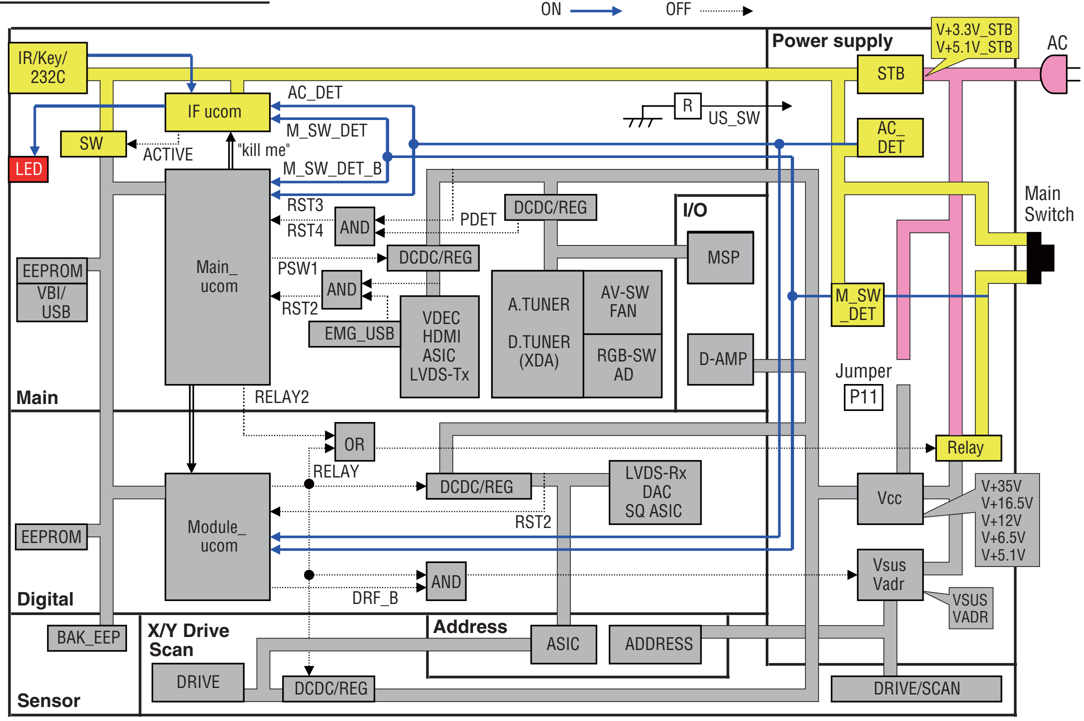
## Power supply status - Passive standby

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | OFF |
| Main: RELAY2 | OFF |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | OFF |
| Main: RST2 | OFF |
| Module: RST2 | OFF |



ON
OFF
IR/Key/232C
Power supply
V+3.3V_STB
V+5.1V_STB
AC
STB
IF ucom
AC_DET
M_SW_DET
R
US_SW
SW
ACTIVE
"kill me"
AC_DET
LED
M_SW_DET_B
Main Switch
RST3
RST4
AND
PDET
DCDC/REG
I/O
MSP
EEPROM
VBI/USB
Main_ucom
DCDC/REG
PSW1
AND
RST2
EMG_USB
VDEC HDMI ASIC LVDS-Tx
A.TUNER
D.TUNER (XDA)
AV-SW FAN
RGB-SW AD
D-AMP
M_SW_DET
Jumper
P11
Main
RELAY2
OR
Relay
RELAY
DCDC/REG
LVDS-Rx DAC SQ ASIC
Vcc
V+35V
V+16.5V
V+12V
V+6.5V
V+5.1V
EEPROM
Module_ucom
RST2
AND
DRF_B
Vsus Vadr
VSUS VADR
Digital
BAK_EEP
X/Y Drive Scan
Address
ASIC
ADDRESS
DRIVE
DCDC/REG
DRIVE/SCAN
Sensor

Remote control unit waiting state. (Red LED: ON)
Among standby power devices, only the IF microcomputer periphery operates.

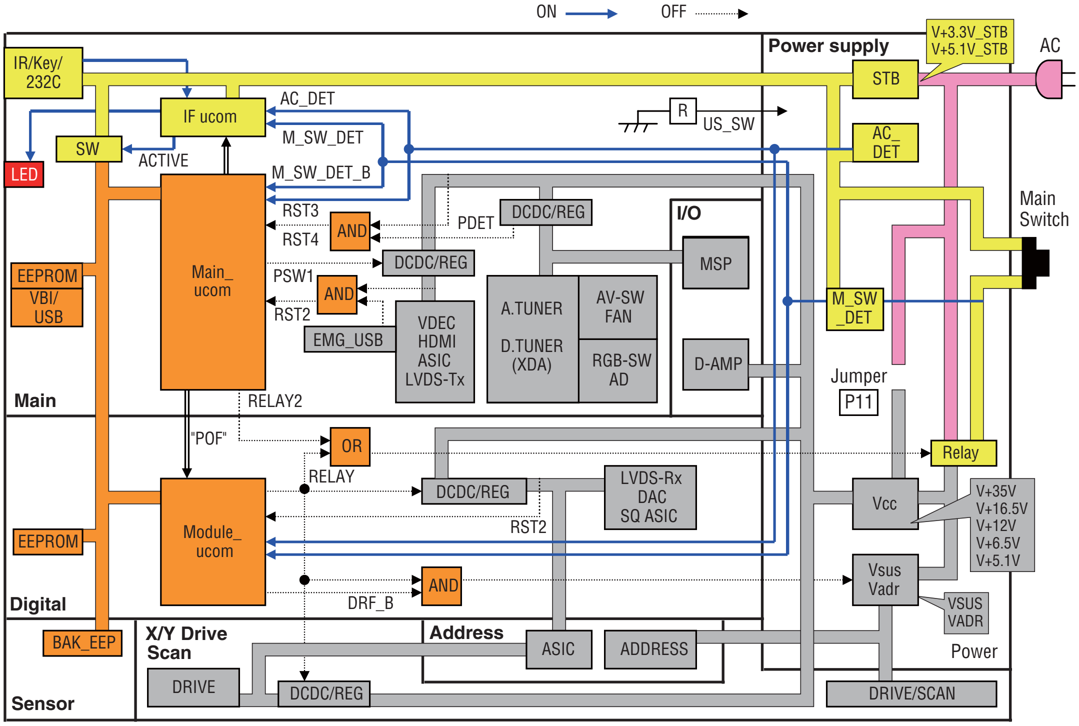
## Power supply status - Active standby

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | ON |
| Main: RELAY2 | OFF |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | OFF |
| Main: RST2 | OFF |
| Module: RST2 | OFF |


ON
OFF
IR/Key/ 232C
IF ucom
SW
ACTIVE
LED
AC_DET
M_SW_DET
M_SW_DET_B
RST3
RST4
AND
PSW1
RST2
PDET
DCDC/REG
EMG_USB
VDEC HDMI ASIC LVDS-Tx
A.TUNER
D.TUNER (XDA)
AV-SW FAN
RGB-SW AD
I/O
MSP
D-AMP
Main_ ucom
EEPROM
VBI/ USB
Main
RELAY2
"POF"
OR
RELAY
LVDS-Rx DAC SQ ASIC
Module_ ucom
EEPROM
Digital
DRF_B
BAK_EEP
X/Y Drive Scan
DRIVE
Address
ASIC
ADDRESS
Sensor
Power supply
V+3.3V_STB V+5.1V_STB
AC
STB
R
US_SW
AC_ DET
Main Switch
M_SW _DET
Jumper
P11
Relay
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
Vsus Vadr
VSUS VADR
Power
DRIVE/SCAN

Remote control unit waiting state. (Red LED: ON)
Standby power devices (periphery of IF/Main/Module microcomputer) operate.

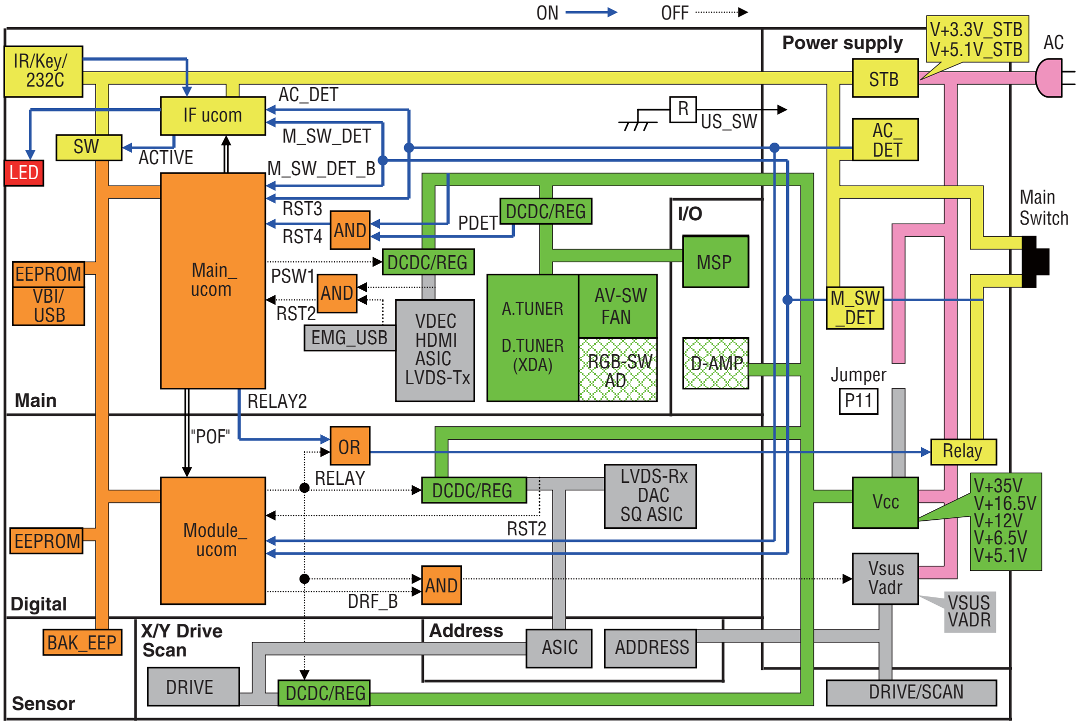
## Power supply status - Functional standby

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | ON |
| Main: RELAY2 | ON |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | ON |
| Main: RST2 | OFF |
| Module: RST2 | OFF |


ON
OFF
IR/Key/ 232C
IF ucom
SW
ACTIVE
LED
AC_DET
M_SW_DET
M_SW_DET_B
RST3
RST4
AND
PSW1
RST2
PDET
DCDC/REG
EMG_USB
VDEC HDMI ASIC LVDS-Tx
A.TUNER
D.TUNER (XDA)
AV-SW FAN
RGB-SW AD
I/O
MSP
D-AMP
Main_ ucom
EEPROM
VBI/ USB
Main
RELAY2
"POF"
OR
RELAY
LVDS-Rx DAC SQ ASIC
Module_ ucom
EEPROM
Digital
DRF_B
BAK_EEP
X/Y Drive Scan
DRIVE
Address
ASIC
ADDRESS
Sensor
Power supply
V+3.3V_STB V+5.1V_STB
AC
STB
R
US_SW
AC_ DET
Main Switch
M_SW _DET
Jumper
P11
Relay
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
Vsus Vadr
VSUS VADR
DRIVE/SCAN

Remote control unit waiting state. (Red LED: ON)
Standby power device and some Vcc power devices operate.
RGB-SW/AD/D-AMP are electrified, but uses the power-saving mode function of the IC.

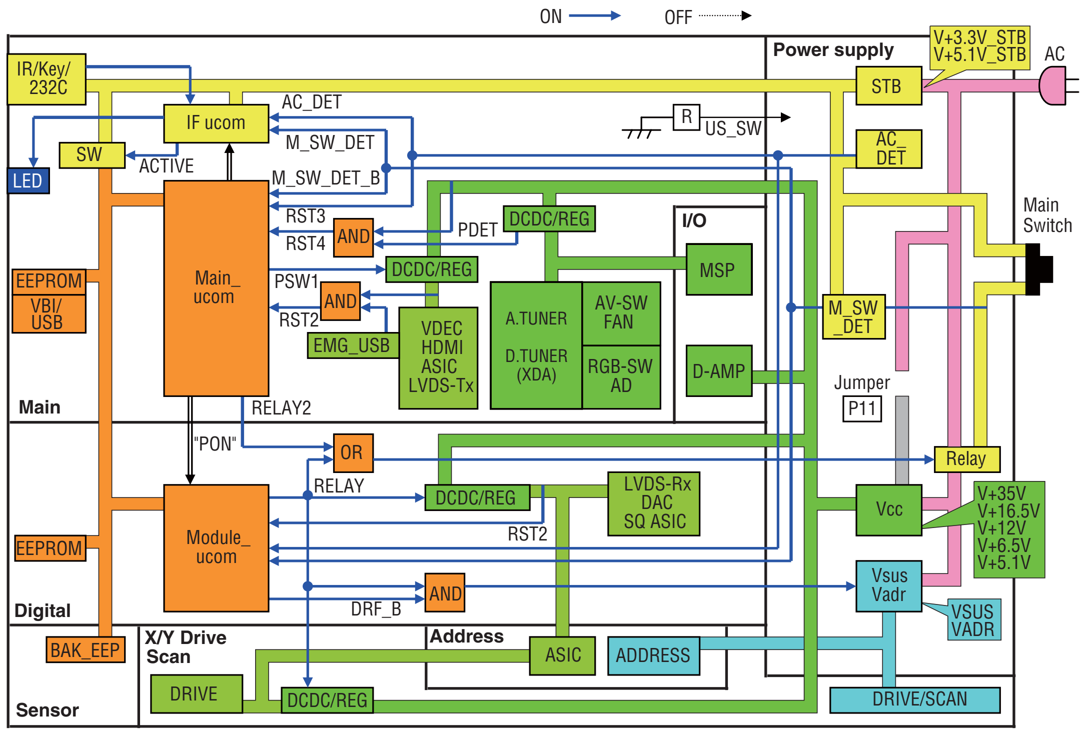
## Power supply status - ON

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | **ON** |
| Main: RELAY2 | **ON** |
| Main: PSW1 | **ON** |
| Module: RELAY | **ON** |
| Module: DRF_B | **ON** |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | **ON** |
| Main: RST2 | **ON** |
| Module: RST2 | **ON** |

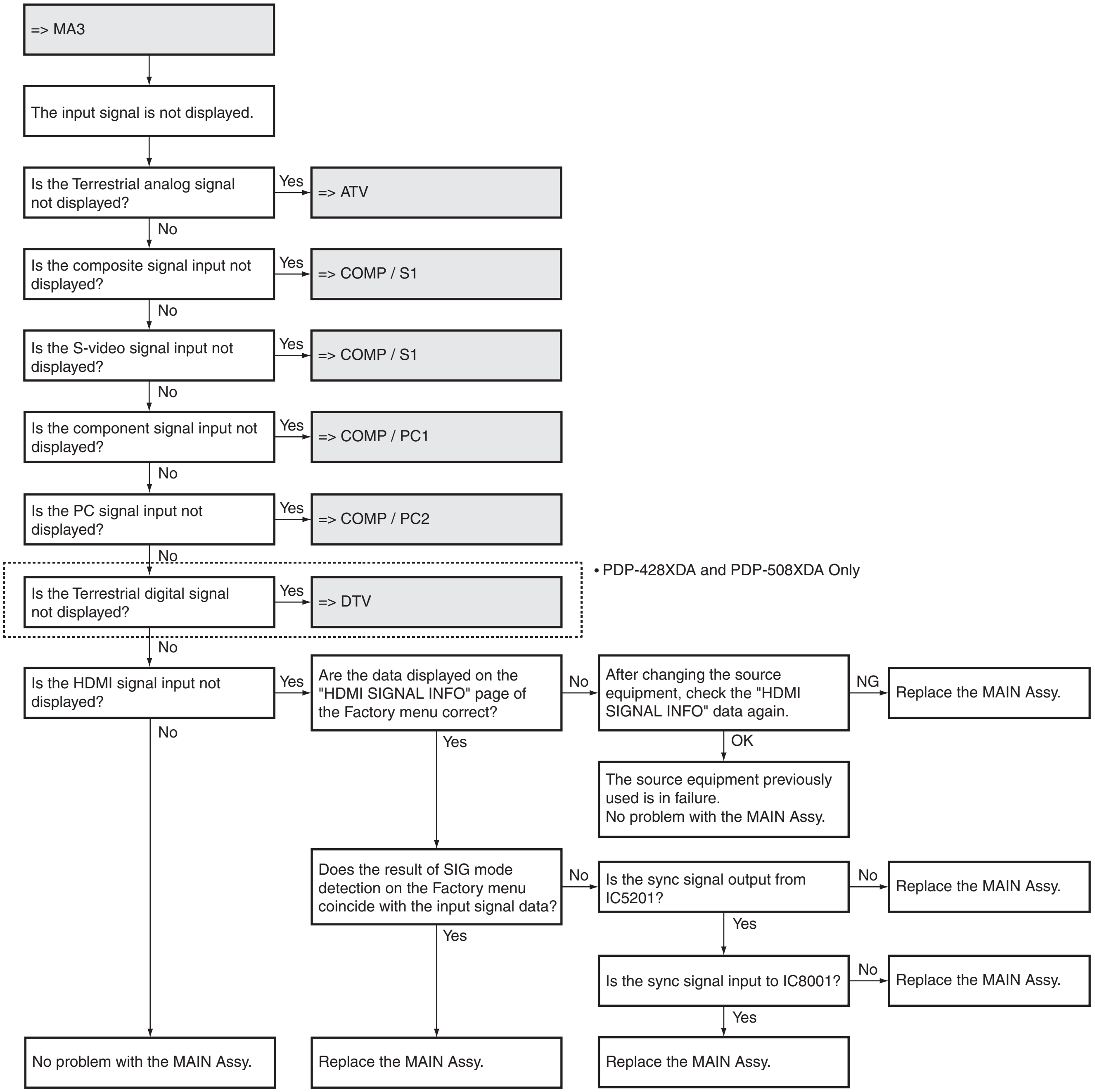

ON
OFF
IR/Key/ 232C
IF ucom
AC_DET
M_SW_DET
M_SW_DET_B
SW
ACTIVE
LED
RST3
RST4
AND
PDET
DCDC/REG
I/O
MSP
PSW1
AND
RST2
DCDC/REG
EMG_USB
VDEC HDMI ASIC LVDS-Tx
A.TUNER
D.TUNER (XDA)
AV-SW FAN
RGB-SW AD
D-AMP
EEPROM
VBI/ USB
Main_ ucom
Main
RELAY2
"PON"
OR
RELAY
DCDC/REG
LVDS-Rx DAC SQ ASIC
RST2
EEPROM
Module_ ucom
AND
DRF_B
Digital
BAK_EEP
X/Y Drive Scan
DRIVE
DCDC/REG
Address
ASIC
ADDRESS
Sensor
Power supply
R
US_SW
STB
AC_ DET
V+3.3V_STB V+5.1V_STB
AC
Main Switch
M_SW _DET
Jumper
P11
Relay
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
Vsus Vadr
VSUS VADR
DRIVE/SCAN

A state when it displays a picture on the PDP. (Blue LED: ON)
All devices are electrified.

# 4.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS

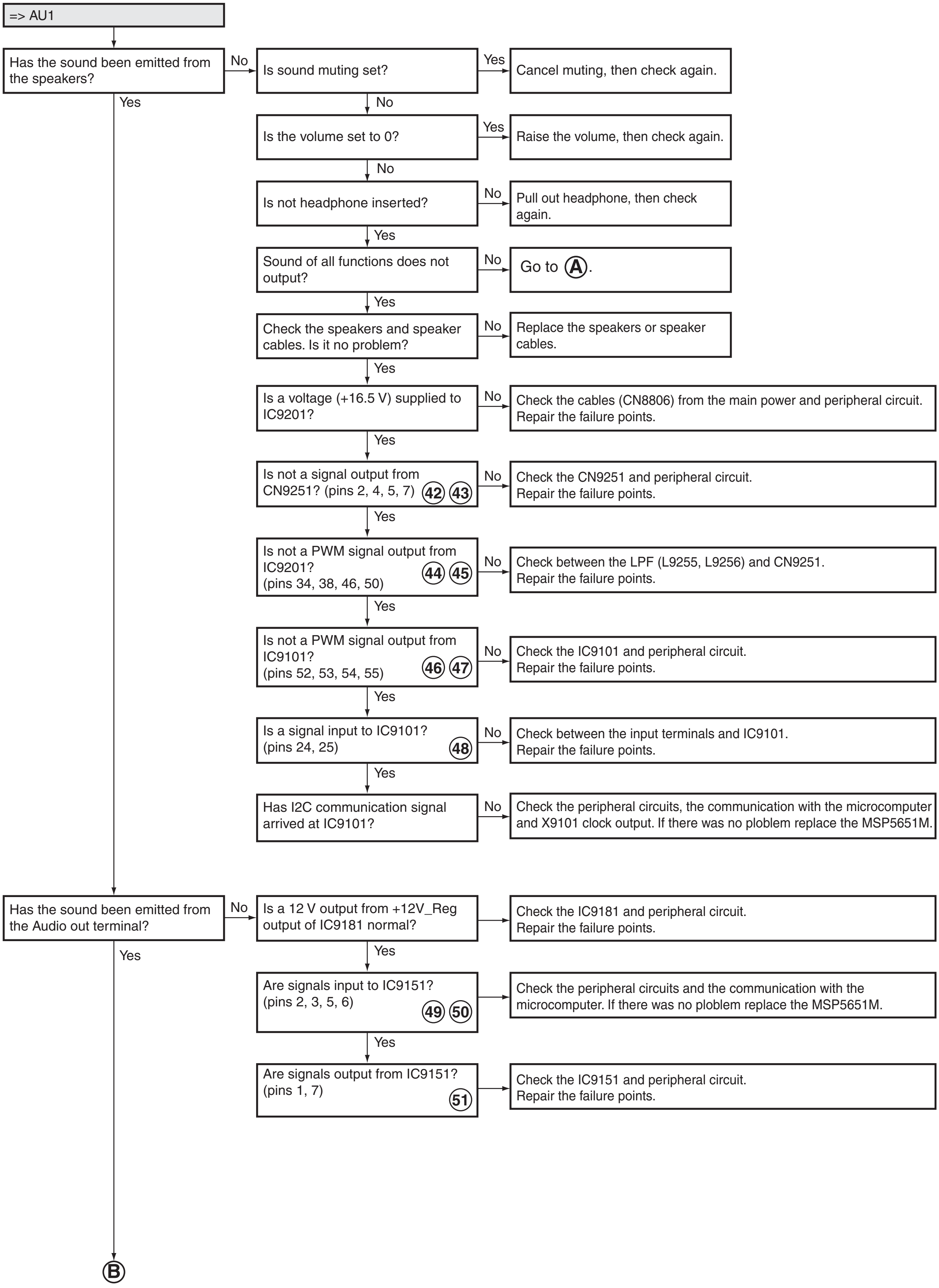
## 4.2.1 VIDEO SYSTEM

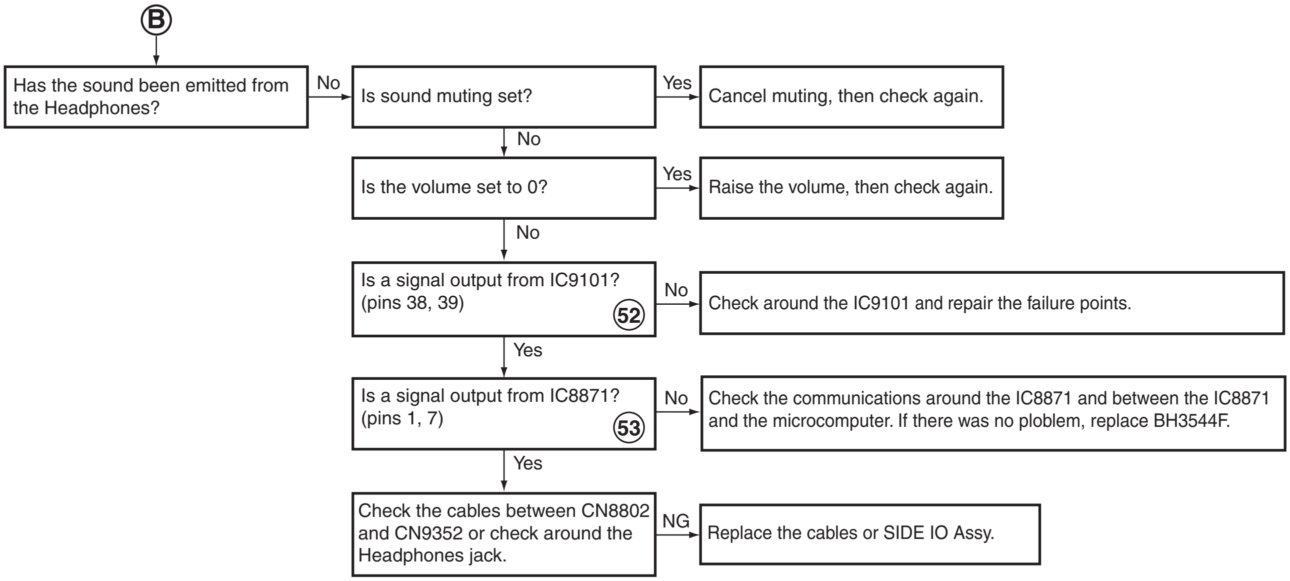
### Flowchart of Failure Analysis for The Video System


=> MA3
The input signal is not displayed.
Is the Terrestrial analog signal not displayed?
Yes
=> ATV
No
Is the composite signal input not displayed?
Yes
=> COMP / S1
No
Is the S-video signal input not displayed?
Yes
=> COMP / S1
No
Is the component signal input not displayed?
Yes
=> COMP / PC1
No
Is the PC signal input not displayed?
Yes
=> COMP / PC2
No
• PDP-428XDA and PDP-508XDA Only
Is the Terrestrial digital signal not displayed?
Yes
=> DTV
No
Is the HDMI signal input not displayed?
Yes
Are the data displayed on the "HDMI SIGNAL INFO" page of the Factory menu correct?
No
After changing the source equipment, check the "HDMI SIGNAL INFO" data again.
NG
Replace the MAIN Assy.
OK
The source equipment previously used is in failure.
No problem with the MAIN Assy.
Yes
Does the result of SIG mode detection on the Factory menu coincide with the input signal data?
No
Is the sync signal output from IC5201?
No
Replace the MAIN Assy.
Yes
Is the sync signal input to IC8001?
No
Replace the MAIN Assy.
Yes
Replace the MAIN Assy.
Yes
Replace the MAIN Assy.
No
No problem with the MAIN Assy.

## 4.2.2 AUDIO SYSTEM

### Flowchart of Failure Analysis for The Audio System

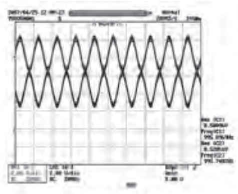

=> AU1
Has the sound been emitted from the speakers?
No
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is not headphone inserted?
No
Pull out headphone, then check again.
Yes
Sound of all functions does not output?
No
Go to Ⓐ.
Yes
Check the speakers and speaker cables. Is it no problem?
No
Replace the speakers or speaker cables.
Yes
Is a voltage (+16.5 V) supplied to IC9201?
No
Check the cables (CN8806) from the main power and peripheral circuit. Repair the failure points.
Yes
Is not a signal output from CN9251? (pins 2, 4, 5, 7) (42) (43)
No
Check the CN9251 and peripheral circuit. Repair the failure points.
Yes
Is not a PWM signal output from IC9201? (pins 34, 38, 46, 50) (44) (45)
No
Check between the LPF (L9255, L9256) and CN9251. Repair the failure points.
Yes
Is not a PWM signal output from IC9101? (pins 52, 53, 54, 55) (46) (47)
No
Check the IC9101 and peripheral circuit. Repair the failure points.
Yes
Is a signal input to IC9101? (pins 24, 25) (48)
No
Check between the input terminals and IC9101. Repair the failure points.
Yes
Has I2C communication signal arrived at IC9101?
No
Check the peripheral circuits, the communication with the microcomputer and X9101 clock output. If there was no ploblem replace the MSP5651M.
Yes
Has the sound been emitted from the Audio out terminal?
No
Is a 12 V output from +12V_Reg output of IC9181 normal?
Check the IC9181 and peripheral circuit. Repair the failure points.
Yes
Are signals input to IC9151? (pins 2, 3, 5, 6) (49) (50)
Check the peripheral circuits and the communication with the microcomputer. If there was no ploblem replace the MSP5651M.
Yes
Are signals output from IC9151? (pins 1, 7) (51)
Check the IC9151 and peripheral circuit. Repair the failure points.
Yes
Ⓑ


B
Has the sound been emitted from the Headphones?
No
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is a signal output from IC9101? (pins 38, 39) ㊾52
No
Check around the IC9101 and repair the failure points.
Yes
Is a signal output from IC8871? (pins 1, 7) 53
No
Check the communications around the IC8871 and between the IC8871 and the microcomputer. If there was no ploblem, replace BH3544F.
Yes
Check the cables between CN8802 and CN9352 or check around the Headphones jack.
NG
Replace the cables or SIDE IO Assy.

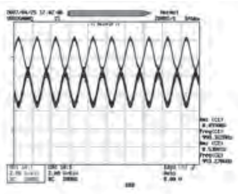
## • Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

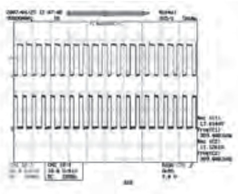
㊷ **CN9251 - pins 2, 4**
V: 2 V/div H: 1 mS/div



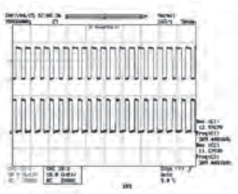
㊸ **CN9251 - pins 5, 7**
V: 2 V/div H: 1 mS/div



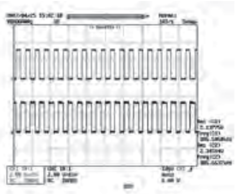
㊹ **IC9201 - pins 34, 38**
V: 10 V/div H: 5 µS/div



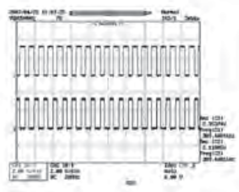
㊺ **IC9201 - pins 44, 52**
V: 10 V/div H: 5 µS/div



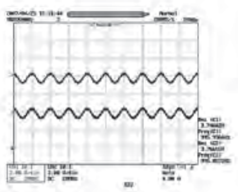
㊻ **IC9101 - pins 52, 53**
V: 2 V/div H: 5 µS/div



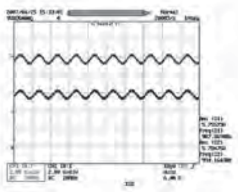
㊼ **IC9101 - pins 54, 55**
V: 2 V/div H: 5 µS/div



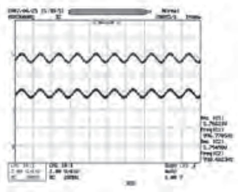
㊽ **IC9101 - pins 24, 25**
V: 2 V/div H: 1 mS/div



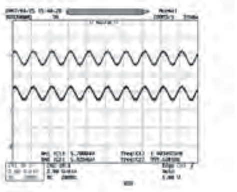
㊾ **IC9151 - pins 2, 3**
V: 2 V/div H: 1 mS/div



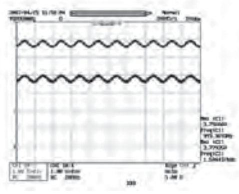
㊿ **IC9151 - pins 5, 6**
V: 2 V/div H: 1 mS/div



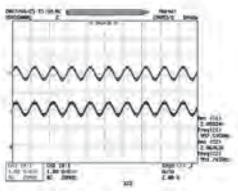
(51) **IC9151 - pin 1, etc.**
V: 2 V/div H: 1 mS/div

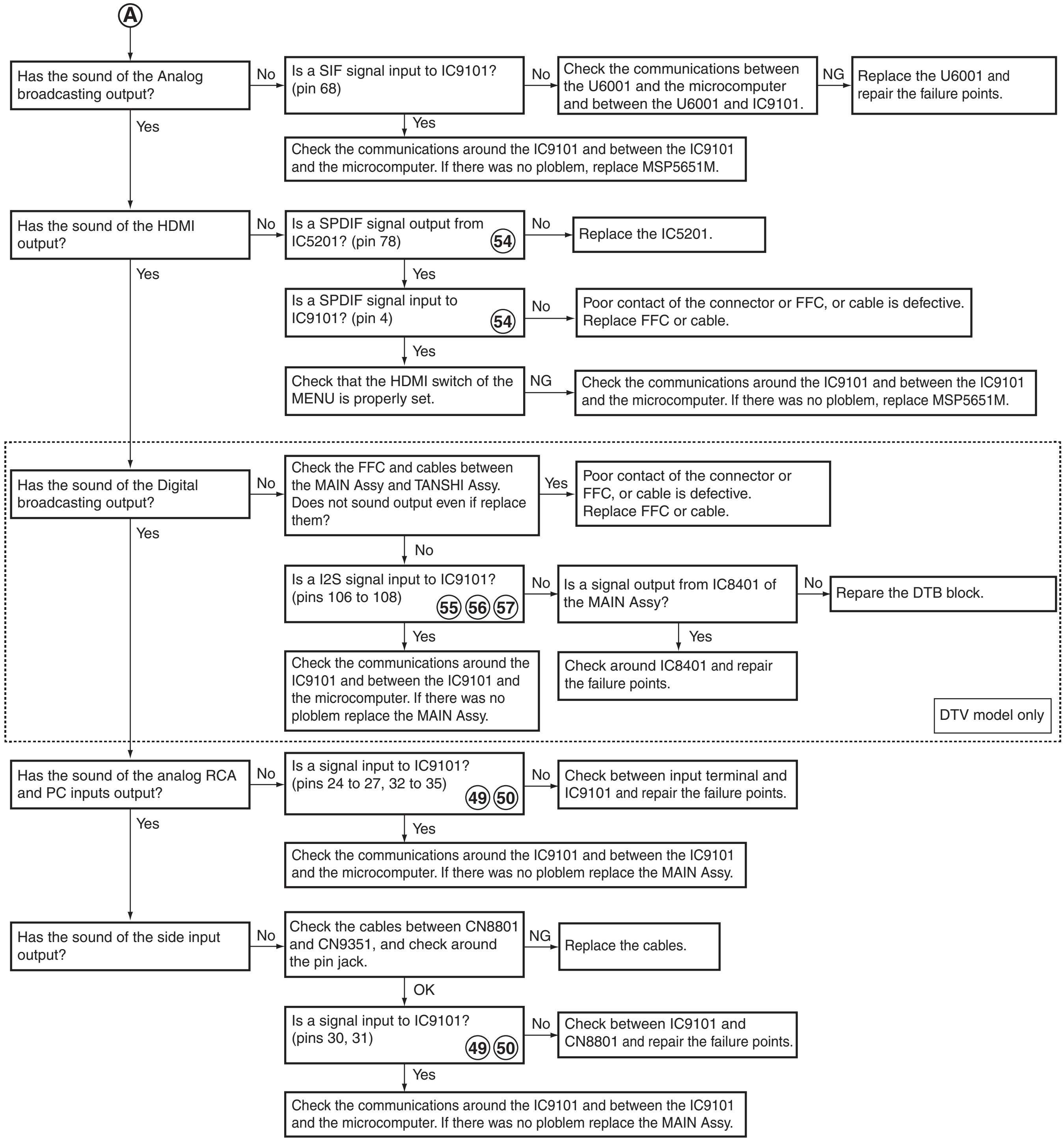


(52) **IC9101 - pins 38, 39**
V: 1 V/div H: 1 mS/div



(53) **IC8871 - pins 1, 7**
V: 1 V/div H: 1 mS/div





Has the sound of the Analog broadcasting output?

Is a SIF signal input to IC9101? (pin 68)

Check the communications between the U6001 and the microcomputer and between the U6001 and IC9101.

Replace the U6001 and repair the failure points.

Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem, replace MSP5651M.

Has the sound of the HDMI output?

Is a SPDIF signal output from IC5201? (pin 78) 54

Replace the IC5201.

Is a SPDIF signal input to IC9101? (pin 4) 54

Poor contact of the connector or FFC, or cable is defective. Replace FFC or cable.

Check that the HDMI switch of the MENU is properly set.

Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem, replace MSP5651M.

Has the sound of the Digital broadcasting output?

Check the FFC and cables between the MAIN Assy and TANSHI Assy. Does not sound output even if replace them?

Poor contact of the connector or FFC, or cable is defective. Replace FFC or cable.

Is a I2S signal input to IC9101? (pins 106 to 108) 55 56 57

Is a signal output from IC8401 of the MAIN Assy?

Repare the DTB block.

Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem replace the MAIN Assy.

Check around IC8401 and repair the failure points.

DTV model only

Has the sound of the analog RCA and PC inputs output?

Is a signal input to IC9101? (pins 24 to 27, 32 to 35) 49 50

Check between input terminal and IC9101 and repair the failure points.

Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem replace the MAIN Assy.

Has the sound of the side input output?

Check the cables between CN8801 and CN9351, and check around the pin jack.

Replace the cables.

Is a signal input to IC9101? (pins 30, 31) 49 50

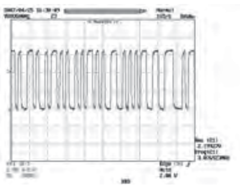
Check between IC9101 and CN8801 and repair the failure points.

Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem replace the MAIN Assy.

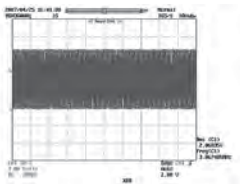
## • Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

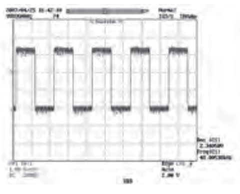
**54 IC5201 - pin 78**
V: 1 V/div H: 1 µS/div



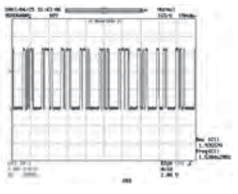
**55 IC9101 - pin 106**
V: 1 V/div H: 10 µS/div



**56 IC9101 - pin 107**
V: 1 V/div H: 10 µS/div



**57 IC9101 - pin 108**
V: 1 V/div H: 10 µS/div



# 4.3 DIAGNOSIS OF SD (SHUTDOWN)

## 4.3.1 SD (SHUTDOWN) DIAGNOSIS

| Frequency of LED Flashing | Major Type | Detailed Type | Log Indication in Factory Mode | | Checkpoint | Possible Defective Part | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MAIN | SUB | | | |
| Blue 1 | Abnormality in the Sequence LSI | Communication error | SQ-LSI | RTRY | CLK_SQ/TXD_SQ, etc. | IC3401, IC3151 | SQ_IC communication not established. IC3401 may not have properly started up. |
| | | Drive stop | | SQNO | Check if the video sync signal is input to IC3401. | CN3001, IC3001,IC3401 | A shutdown occurs if IC3401 has not properly started up (a communication failure between IC3401 and IC3306 [FLASH]). |
| | | Busy | | BUSY | BUSY_SQ | IC3401, IC3151 | If BUSY_SQ remains high, a shutdown is generated. |
| | | Incoherent version (hardware, software) | | VER-HS | Check the model number of the DIGITAL Assy and the destination of SEQ-PROS. | IC3306, IC3151 | The written SEQ-PROG is incoherent with data on the DIGITAL Assy. |
| | | Incoherent version (memory, software) | | VER-MS | Check the model number of the DIGITAL Assy and the destination of SEQ-PROS. | IC3306, IC3151 | A shutdown occurs if the SEQ-PROG that has been stored in backup memory does not coincide with the actual SEQ-PROG. |
| Blue 2 | Failure in IIC communication with the module microcomputer | DIGITAL Assy EEPROM | MD-IIC | EEPROM | IIC communication line of IC3156 | IC3156, IC3151 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC. |
| | | SENSOR Assy EEPROM | | BACKUP | IIC communication line of IC3652 | IC3652, IC3151 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC. |
| | | DAC1 | | DAC1 | IIC communication line of IC3157 | IC3157, IC3151 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC. |
| | | DAC2 | | DAC2 | IIC communication line of IC3158 | IC3158, IC3151 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC. |
| Blue 3 | Abnormality in RST2 power decrease | – | RST2 | – | Is the output voltage of the DC-DC converter low? | IC3602(BD9302FP) | If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds. |
| | | | | | The 12 V power is not output. | POWER SUPPLY Unit,FU3601 | Check if V + 12 V is started. Also check if the FU3601 on the DIGITAL Assy has been melted. |
| Blue 4 | Abnormality in panel temperature | – | TMP-NG | TMP-H | High temperature abnormality in the panel temperature sensor | SENSOR Assy (IC3651) | If TEMP1 that is read by the module microcomputer is 75°C or higher, a shutdown will be generated. |
| | | | | TMP-L | Low temperature abnormality in the panel temperature sensor | SENSOR Assy (IC3651) | A shutdown occurs if the reading of TEMP1 detected by the module microcomputer is –20°C or less. Also check the connection with the SENSOR Assy. |
| Blue 5 | Short-circuiting of the speakers / D-AMP temperature abnormality | – | AUDIO | – | Speaker terminals | JA9301 | Check if any speaker cable is in contact with the chassis. |
| | | | | | AUDIO_AMP | IC9201, IC9101 | Check if the AMP output is short-circuited. |
| | | | | | Periphery of the cable between IO3 and M8, and IO6 and P5 | CN8803,CN4001,CN8806,P5 | Check if cables are firmly connected. |
| Blue 6 | Failure in communication with the module microcomputer | – | MODULE | – | Communication line between MAIN and MOD | IC3151, IC8401 | Check the communication lines (TXD_MOD/RXD_MOD/REQ_MOD). |
| | | | | | Periphery of the cable between D11 and M1 | CN3001, CN4101 | Check if cables are firmly connected. |
| Blue 7 | Failure in main microcomputer 3-wire serial communication | IF microcomputer | MA-3L | IF | Communication line between IF and MAIN | IC8301, IC8401 | Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF). |
| | | MULTI processor | | MULTI | Communication line between MULTI and MAIN | IC8001, IC8401 | Check the communication lines (TXD_IC3/RXD_IC3). |
| Blue 8 | Failure in IIC communication with the main microcomputer | Tuner 1 | MA-IIC | FE1 | IIC communication line between Tuner and MAIN | U6001,IC8401,IC6101 | Check the communication lines (SCL_TU/SDA_TU or SCL_AV5/SDA_AV5). |
| | | MSP/MAP | | MSPMAP | IIC communication line between MSP/MAP and MAIN | IC9101, IC8401 | Check the communication lines (SCL_AV/SDA_AV). |
| | | AV switch | | AV-SW | IIC communication line between AV-SW and MAIN | IC4601, IC8401 | Check the communication lines (SCL_AV5/SDA_AV5). |
| | | RGB switch | | RGB-SW | IIC communication line between RGB-SW and MAIN | IC4701, IC8401 | Check the communication lines (SCL_AV5/SDA_AV5). |
| | | VDEC | | VDEC | IIC communication line between M-VDEC and MAIN | IC4801, IC8401 | Check the communication lines (SCL_MB/SDA_MB). |
| | | VDEC SDRAM | | SDRAM | IIC communication line between VDEC and SDRAM | IC4801, IC4802 | Check the communication lines (SDRAM). Defective SDRAM |
| | | AD/PLL | | ADC | IIC communication line between ADC and MAIN | IC5001, IC8401 | Check the communication lines (SCL_AV/SDA_AV). |
| | | HDMI | | HDMI | IIC communication line between HDMI_RX and MAIN | IC5201, IC8401 | Check the communication lines (SCL_MB/SDA_MB). |
| Blue 9 | Failure in communication with the main microcomputer | – | MAIN | – | Communication line between IF and MAIN | IC8301, IC8401 | Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF). |
| Blue 10 | FAN NG | FAN1 | FAN | FAN1 | Dirt attached to the fan motor | – | Check the fan(AXM1057). |
| | | | | | Periphery of the FAN CONNECT | AWW1290, AWW1329 | FAN NG |
| | | | | | Periphery of the cable between FA1 and M5, FAN and M4, and FA2 and FA5 | CN9551 to CN9555,CN4103,CN4108 | Check if cables are firmly connected. |
| | | | | | Periphery of the fan control regulator | IC4310, IC4303 | – |
| Blue 11 | High temperature of the unit | – | TEMP2 | – | Temperature sensor or its periphery | – | TEMP2 A shutdown occurs because of high temperature. |
| | | | | | Periphery of the temperature sensor | TH9091 | TEMP2 |
| | | | | | Periphery of the cable between IO4 and M6 | CN8804, CN4004 | Check if cables are firmly connected. |
| Blue 12 | Digital Tuner (PDP-508XDA only) | DTV startup error | DTUNER | PS/RST | – | IC8401 | Check if DTV antenna is short-circuited. |
| | | DTV communication error | | RETRY | – | – | – |
| Blue 13 | Failure in the power supply | DC-DC Converter power decrease | RST-MA | M-DCDC | DC-DC converter or its periphery, RST2 | IC4403, Q4404 | Check if V + 3.3 V_D4 is started. |
| | | | | | EMG_USB | IC4309 | Check if the voltage at a waveform check point is 5 V. |
| | | POWER SUPPLY | | RELAY | The 12 V power is not output, RST4 | POWER SUPPLY Unit | Check if V + 12 V is started. |
| | | | | | The 6.5 V power is not output | POWER SUPPLY Unit | Check if V + 6.5 V is started. |
| | | | | | The 5.1 V power is not output | POWER SUPPLY Unit | Check if V + 5.1 V is started. |
| | | | | | EMG_DDC | DCDC converter | Check if the DCDC converter is overloaded. |
| | | | | | Periphery of the cable between P8 and M3 | CN4105 | Check if cables are firmly connected. |
| Blue 15 | Main EEPROM | Main EEPROM communication error | MA-EEP | – | IIC communication line between EEPROM and MAIN | IC8404, IC8401 | Check the communication lines (SCL_EP/SDA_EP). |

# 4.4 NON-FAILURE INFORMATION

## 4.4.1 INFORMATION ON SYMPTOMS THAT DO NOT CONSTITUTE FAILURE

### ■ Information on symptoms that do not constitute failure

| Symptom | Cause, item to check, information |
|---|---|
| **HDMI: Symptoms concerning the input format and settings** | |
| The picture color for an INPUT 3 or 4 or 5 signal is not correct. | The color setting for INPUT 3 or 4 or 5 is not compatible with that of the output equipment. Check whether the color setting is YPbPr or RGB. |
| The video signal to INPUT 3 or 4 or 5 is not displayed, and a message is displayed. | A unsupported video signal is input. |
| The audio signal input to the INPUT 3 is not output.<br>No HDMI signal is input. | The audio setting for INPUT 3 is any setting and a video signal is not input. If the audio setting is any setting to output an analog audio signal, the HDMI signal must be input. (If a DVI device is to be connected, use a DVI-HDMI conversion cable.) If the HDMI video signal is not input, the analog audio signal is not output. |
| No sound of signals to INPUT 3 or 4 or 5 is output. | The setting on the side of the HDMI output equipment is wrong. (Example: Dolby Digital) |
| The 1080p input signal is not displayed properly or at all, although the 1080i input signal is displayed properly. | Check that the connected cable supports HDMI Category 2. (As the clock frequency for the 1080p signal is triple that for the 1080i signal, signal degradation caused by a cable must not be neglected. A cable supporting HDMI Category 2 can be used for the 1080p signal. Although some conventional cables can support the 1080p signal, some others cannot.) |
| **MONITOR video output** | |
| The video output signal from the MONITOR output is deteriorated. Or when the video output signal from the MONITOR output is recorded, its playback picture is deteriorated. | The video signal output from the MONITOR output is Macrovision protected. |
| The video signal is not output when the component signal is input to INPUT 1 or 2. | The video signal is not output from the MONITOR output when the component signal is selected. |
| The video signal is not output when the video signal is input to INPUT 3 or 4 or 5. | The video signal is not output from the MONITOR output when the HDMI signal is selected. |
| **MONITOR audio output** | |
| The image displayed on the PDP is not synchronized with the sound from the MONITOR audio output. | The audio signal from the MONITOR output is synchronized with the video output signal from the MONITOR output. |
| **DIGITAL OUT** (PDP-508XDA only) | |
| Playback of the signal from the DIGITAL audio output connector is possible, but recording is not possible. | The video signal output from the DIGITAL connector is copy-protected. |
| The digital audio output signal from the DIGITAL connector is not synchronized with that from the MONITOR video output. | The digital audio output signal from the DIGITAL connector is synchronized with the video signal that is currently displayed, and not with the MONITOR video output. |
| **Miscellaneous** | |
| The no-signal off function is not activated. | The no-signal off and no-operation off functions are effective only if video (composite, S video, component, HDMI [excluding PC]) input or TV input is selected. |
| The no-operation off function is not activated. | |
| Power management does not function. | Power Management is effective only while an analog PC signal is being input. It is not effective with HDMI-PC signal input. |
| The AUTO SETUP function is not activated. | The Auto Setup function is effective only while an analog PC signal is being input. This function does not work if an analog PC signal is not input, even if the INPUT PC is selected. |
| The audio signal from the PC is not output. | Wrong connection of the cable to the SR connector is suspected. |
| Control via the SR connector is not possible. | Wrong connection of the cable to the PC INPUT (AUDIO) connector is suspected. |
| The picture-quality setting (AV Selection) is not stored. | The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored. |
| The picture size changes arbitrary. | The Auto Size setting is set to ON. |
| The display position of the screen changes slightly while the screen is on. | The orbiter function for minimizing the effects of phosphor burn is activated. Although the setting for this function can be changed on the Home menu, retaining the factory setting is strongly recommended. |
| The video signal to the S video connector is not displayed. | The component video cable is connected to the same input function as for the S video (even if no signal is input to the component video connector, merely having something plugged in to the connector will result in judgment that a signal is being fed in and the component video connector takes priority).(Priority of connectors: component video > S video > composite video) |
| The video signal to the composite video connector is not displayed. | The S Video or component video cable is connected to the same input function as for the composite video.(Priority of connectors : component video > S video > composite video) |

**SUPPLEMENT: On the video setting for HDMI**

There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.
(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)
It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.
In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVi, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

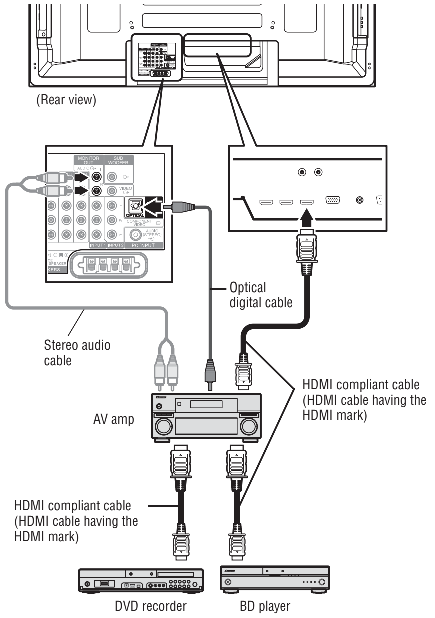
## 4.4.1.1 CONFIRMATION ON THE HDMI CONTROL FUNCTION

When you use the HDMI Control (HDMI-CEC) function, if the unit does not function properly, such as not being able to control or recognize connected equipment, check the following:

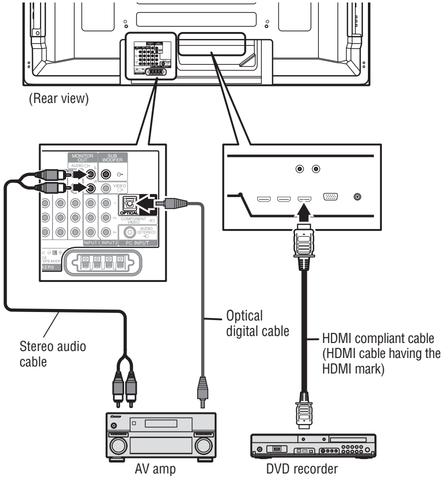
- **Confirmation of the manufacturer of the connected equipment**
  Check if the connected equipment was manufactured by Pioneer and if it supports the HDMI Control function.
  If its manufacturer is not Pioneer, proper operations are not guaranteed.

- **Confirmation of connections**
  Check if the unit is connected properly, as shown in the figures below:
  (For details, refer to "Making the HDMI Control connections" in the Operating instructions.)

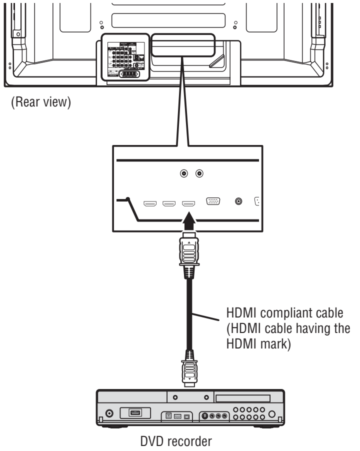
### • PDP-508XDA


(Rear view)
OPTICAL
Optical digital cable
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Example 1: When an AV amplifier that supports HDMI Control is connected

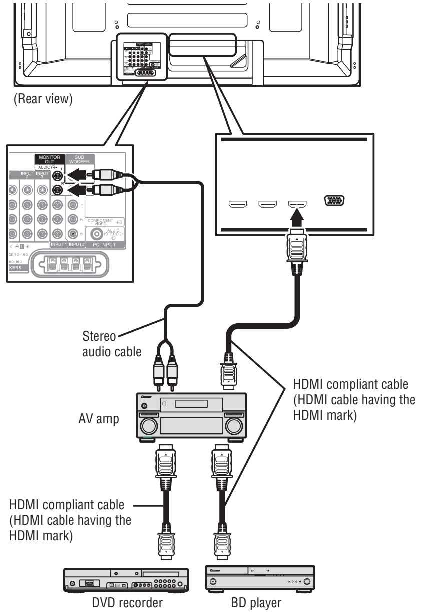

(Rear view)
OPTICAL
Stereo audio cable
Optical digital cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
DVD recorder

Example 2: When an AV amplifier that does not support HDMI Control is connected

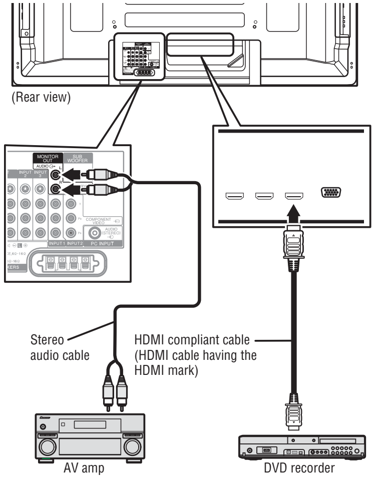

(Rear view)
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder

Example 3: When an AV amplifier is not connected

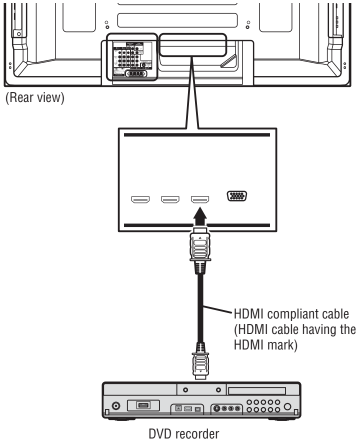
### • PDP-508XG


(Rear view)
Stereo audio cable
AV amp
HDMI compliant cable (HDMI cable having the HDMI mark)
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Example 1: When an AV amplifier that supports HDMI Control is connected

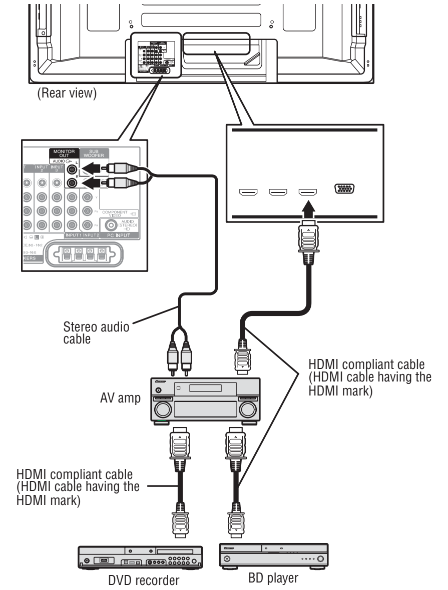

(Rear view)
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
DVD recorder

Example 2: When an AV amplifier that does not support HDMI Control is connected

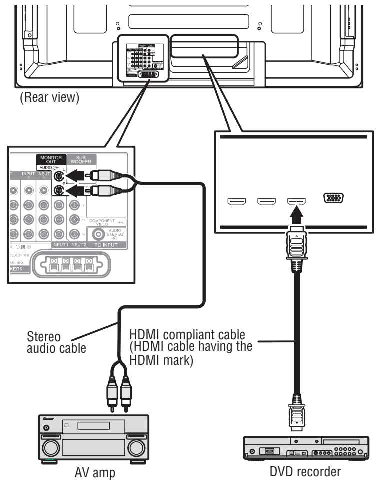

(Rear view)
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder

Example 3: When an AV amplifier is not connected

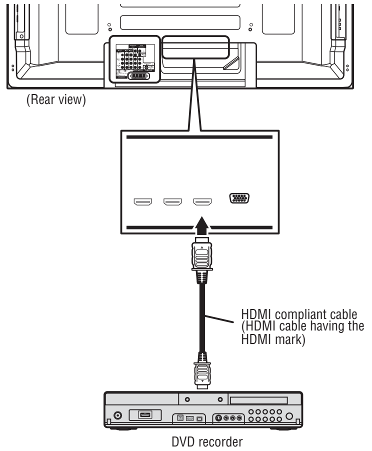
## • PDP-508XC


(Rear view)
Stereo audio cable
AV amp
HDMI compliant cable (HDMI cable having the HDMI mark)
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Example 1: When an AV amplifier that supports HDMI Control is connected


(Rear view)
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
DVD recorder

Example 2: When an AV amplifier that does not support HDMI Control is connected


(Rear view)
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder

Example 3: When an AV amplifier is not connected

Check that the following conditions are met:

- The connected equipment must support the HDMI Control function.
- The equipment must be connected to the INPUT connector that has been selected in "Input Setting" on the HDMI Control Setting menu.
- The connections must be made properly, as shown in the above figures (in a case where an AV device, such as an AV amplifier, and a DVD recorder/BD player are connected, in a case where only a DVD recorder/BD player is connected, and in a case where an AV device, such as an AV amplifier, which does not support HDMI-CEC, is connected).
- When an AV device that supports the HDMI Control function is connected, it must be connected between the PDP and a DVD recorder/BD player.
- The HDMI Control function must be activated on the connected equipment (DVD recorder, BD player, AV device [AV amplifier, etc.]).
  (Refer to the instruction manual of the connected equipment.)

### • Confirmation of the number of connected devices

Check that the number of connected devices does not exceed the maximum number for guaranteed operations.

| Equipment | Maximum Number |
|---|---|
| DVD recorder | 2 |
| BD player | 2 |
| AV System | 1 |

### • Confirmation of settings

Check that the settings for the HDMI Control function are properly made. (For details, refer to "Setting the HDMI Control" in the Operating instructions.)

Check that the following conditions are met:

- "Input Setting" on the HDMI Control Setting menu must be set to the same input as that to which the equipment that supports the HDMI Control function is connected.
- When Power Off Control, Power-On Ready, or Hold Sound Status are to be used, their settings must be On.

### • Confirmation of operations

Check that the HDMI Control function works properly.

(1) Connect a device that supports the HDMI Control function.

(2) Perform the procedures that are required after changing connections, which are described in "Making the HDMI Control connections" in the Operating instructions.

1 Turn on the plasma television and all the connected devices.

2 Confirm that the setting in “Input Setting” for “HDMI Control Setting” is properly entered according to the connected devices. Also confirm the HDMI Control related settings in the connected devices.

3 Switch to the HDMI input terminals to which the devices are connected to check if audio and video images are properly output and displayed.

4 Try turning off the plasma television, then turn the power back on to the plasma television.

(3) Perform "Power On Test" or "Power Off Test" on the HDMI Control Setting menu. (For details, refer to "Power On/Off Test" in the Operating instructions.)

If the following occurs even if the operation check is performed properly, a failure, such as breakage of the HDMI cable, problems on the side of the connected device, and problems with the MAIN Assy, may be suspected:

- "Power On Test" or "Power Off Test" cannot be selected (the items are grayed)
- The connected device cannot be turned on/off.

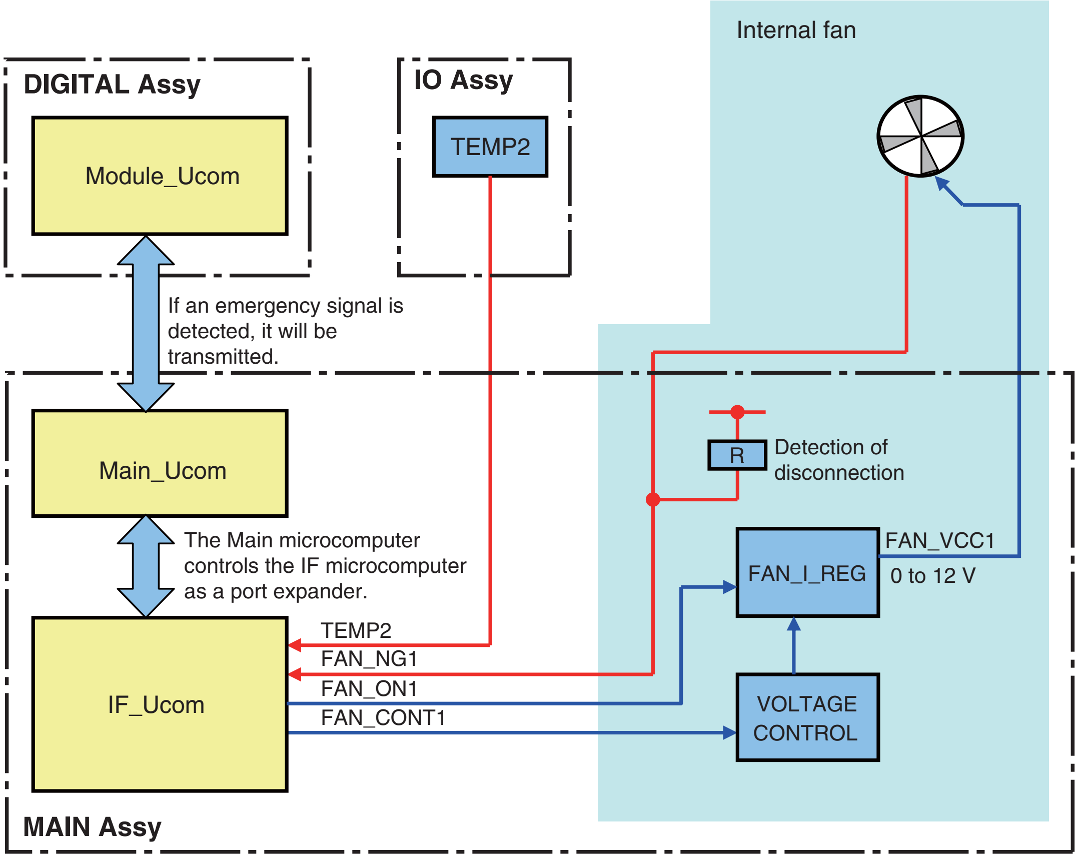
In some cases, an operation check using another HDMI input connector may be required in order to narrow down the cause.

# 4.5 OUTLINE OF THE OPERATION

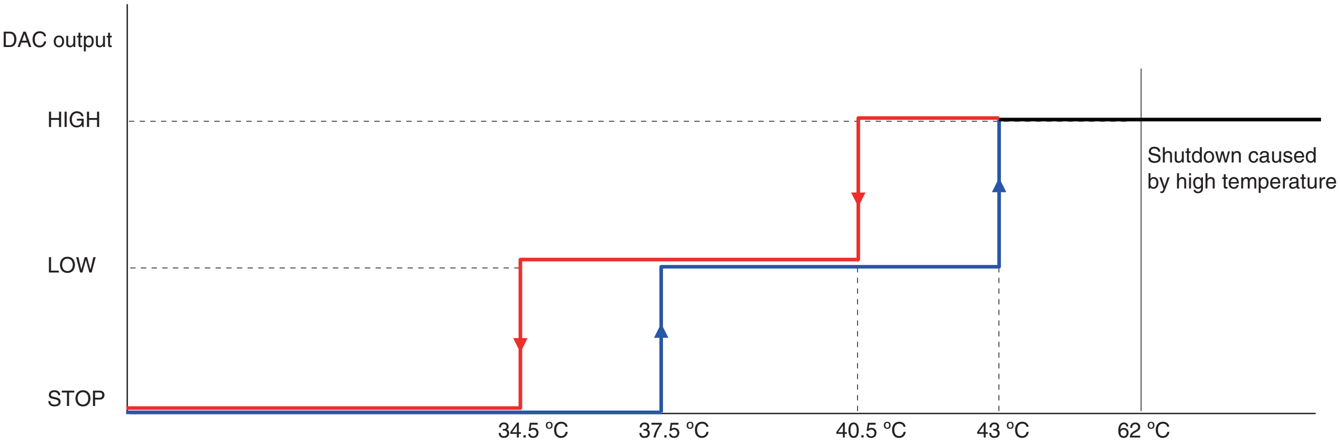
## 4.5.1 SPECIFICATION OF THE FAN CONTROL

### ■ Block diagram

The internal fan cools down the MTB and Power blocks.


Internal fan
DIGITAL Assy
Module_Ucom
IO Assy
TEMP2
If an emergency signal is detected, it will be transmitted.
Main_Ucom
The Main microcomputer controls the IF microcomputer as a port expander.
R
Detection of disconnection
FAN_I_REG
FAN_VCC1
0 to 12 V
IF_Ucom
TEMP2
FAN_NG1
FAN_ON1
FAN_CONT1
VOLTAGE CONTROL
MAIN Assy

### ■ Operation specifications



**Notes:**

- The operating temperature of the fan is higher than the ambient temperature, because the sensor temperature is read by the microcomputer.
- If the critical values for signals are displayed in the address circuit, the fan may be activated or be rotated at higher speed in response to values lower than the set temperature values shown above.

# 5. SERVICE FACTORY MODE

SERVICE FACTORY MODE of PDP-508XG/DLFT,PDP-508XDA/YP and PDP-508XC/WA5 is the same as PDP-5080XA/WYV5 except for the following:

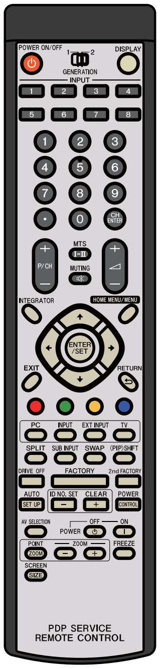
## 5.1 OUTLINE OF THE SERVICE FACTORY MODE

Operations during Service Factory mode are described here.

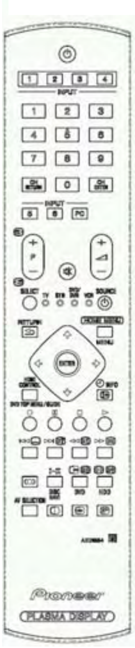
### 5.1.1 REMOTE CONTROL CODE IN SERVICE FACTORY MODE

| Remote Control Keys | Basic Functions | Remarks |
|---|---|---|
| MUTING | Switching the main items. | Shifting to the next main item (top). |
| ⬇ (DOWN) | Switching the subtitled items. | Shifting downward to the next subtitled item. |
| ⬆ (UP) | Switching the subtitled items. | Shifting upward to the next upper layer. |
| ⬅ (LEFT) | Decreasing the adjustment value. | Decreasing the adjustment value. |
| ➡ (RIGHT) | Increasing the adjustment value. | Increasing the adjustment value. |
| ENTER/SET | Switching the layers. | Shifting downward or upward to the next lower or upper layer. |
| INPUT | Selecting INPUT. | Shifting the INPUT to the next function. |
| INPUTxx | Selecting INPUT. | Switching the INPUT to xx. (xx=1 to 6 etc) |
| CH+/P+ | Increasing the channel number. | |
| CH-/P- | Decreasing the channel number. | |
| Numeric Keys | Function: TV | Function: TV (previously selected channel number is selected) |
| POWER | Power OFF. | Turning the power off. |
| FACTORY | Factory OFF (Factory mode) | In Factory mode, turning Factory mode off. |
| | Factory ON (Non-Factory mode). | In Non-Factory mode, turn Fuctory mode on. |
| HOME MENU | Menu ON. | In Factory mode, turn Factory mode off. |
| VOLUME+ | Volume UP. | Increasing 10 the adjustment value. (PANEL FACTORY) |
| VOLUME- | Volume DOWN. | Decreasing 10 the adjustment value. (PANEL FACTORY) |
| DRIVE OFF (Note1) | Drive Mode OFF. | Turning Drive mode off. |
| INTEGRATOR | INTEGRATOR MENU ON. | Enter INTEGRATOR MODE. |

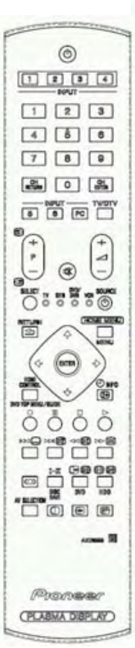
(Note 1) When ten seconds have passed since the [DRIVE OFF] key was pressed at the standby, it becomes invalid.
Please press [POWER] key from the [DRIVE OFF] key pressing within ten seconds when you do power supply ON while driven OFF.


POWER ON/OFF
DISPLAY
GENERATION
INPUT
P/CH
MTS
MUTING
INTEGRATOR
HOME MENU/ MENU
ENTER /SET
EXIT
RETURN
PC
INPUT
EXT INPUT
TV
SPLIT
SUB INPUT
SWAP
DRIVE OFF
FACTORY
2nd FACTORY
AUTO
ID NO. SET
CLEAR
POWER
AV SELECTION
OFF
ON
POWER
POINT
ZOOM
FREEZE
SCREEN
SIZE
PDP SERVICE
REMOTE CONTROL

PDP service remote control



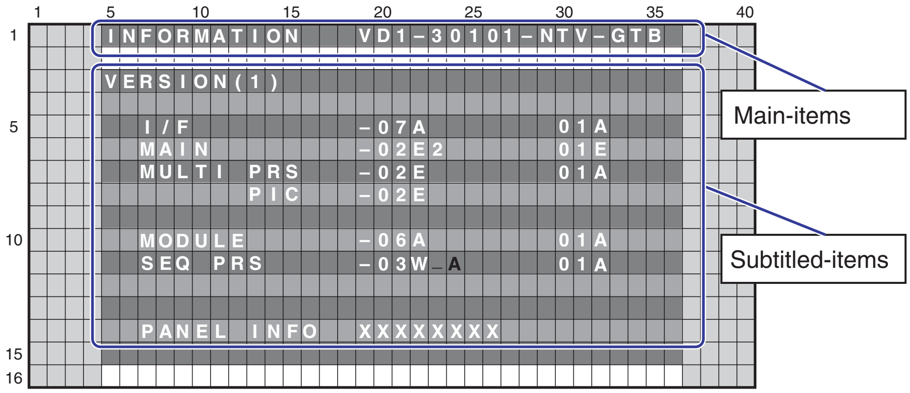
PDP-508XG



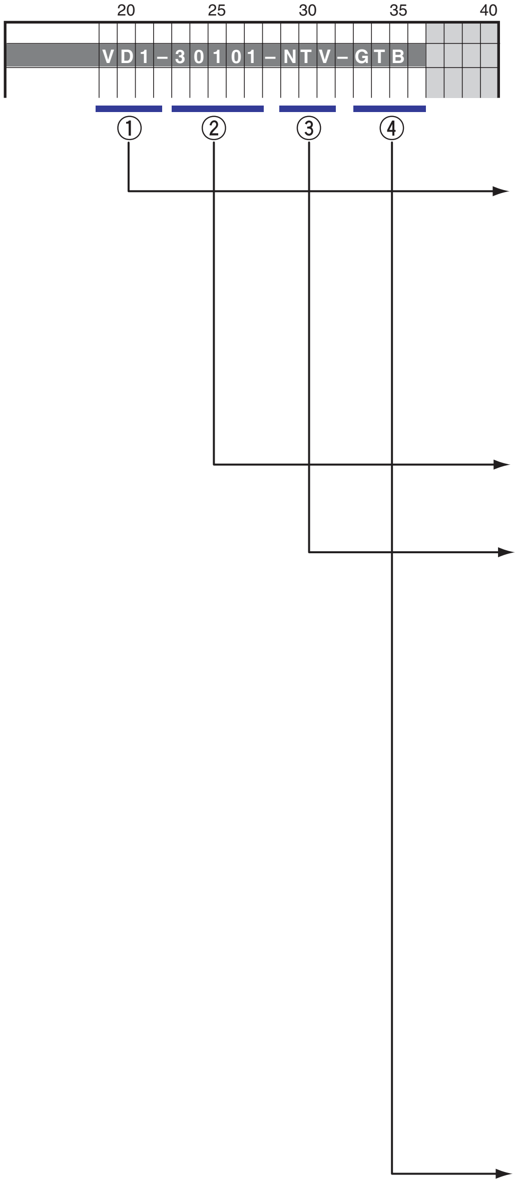
PDP-508XDA

PDP-508XC

## 5.1.2 INDICATIONS IN SERVICE FACTORY MODE


1
5
10
15
20
25
30
35
40
1
5
10
15
16
INFORMATION VD1–30101–NTV–GTB
VERSION(1)
I/F –07A 01A
MAIN –02E2 01E
MULTI PRS –02E 01A
PIC –02E
MODULE –06A 01A
SEQ PRS –03W_A 01A
PANEL INFO XXXXXXXX
Main-items
Subtitled-items

## Main-item indications


20
25
30
35
40
VD1–30101–NTV–GTB
①
②
③
④

### ① Input function

| Input Functions | OSD |
|---|---|
| VD 1 to 5 | VD 1 to 5 |
| Terrestrial Analog Wave | AIR |
| Terrestrial Digital Wave (PDP-508XDA only) | ARD |
| Cable | CBL |
| Home Gallery | HG |
| PC | PC |

### ② SIG mode and Screen size

Note: See SIG-Mode Tables. (See next page.)

### ③ Color system and Signal type

| Color System and Signal Type | OSD | |
|---|---|---|
| | At Composite Input | At S-connector Input |
| NTSC | NTV | NTS |
| PAL | PLV | PLS |
| PAL M | PMV | PMS |
| PAL N | PNV | PNS |
| PAL 60 | P6V | P6S |
| SECAM | SCV | SCS |
| 4.43 NTSC | 4NV | 4NS |
| BLACK/WHITE | BWV | BWS |
| Y/CB/CR | CBR | |
| Y/PB/PR | PBR | |
| RGB | RGB | |
| Digital Video signal | DIG | |

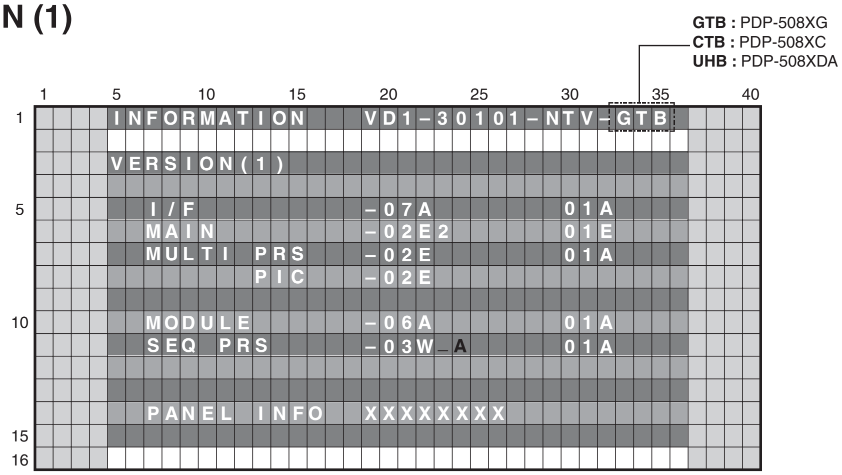
### ④ Option (Destination, Panel Generation, etc.)

| Options | OSD |
|---|---|
| PDP-508XG | GTB |
| PDP-508XDA | UHB |
| PDP-508XC | CTB |

# 5.2 DETAILS OF FACTORY MENU

## 5.2.1 INFORMATION

### 5.2.1.1 VERSION (1)



**GTB :** PDP-508XG
**CTB :** PDP-508XC
**UHB :** PDP-508XDA

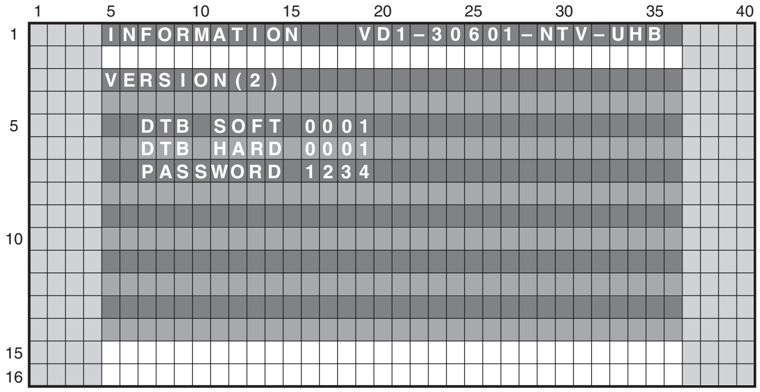
```
INFORMATION   VD1-30101-NTV-GTB

VERSION(1)

  I/F           -07A        01A
  MAIN          -02E2       01E
  MULTI  PRS    -02E        01A
         PIC    -02E

  MODULE        -06A        01A
  SEQ  PRS      -03W_A      01A


  PANEL  INFO   XXXXXXXX
```

| Microcomputer | Item Name | Display Example (Execution program block) | Display Example (Boot block) |
|---|---|---|---|
| I/F microcomputer | I/F | -07A | 01A |
| Main microcomputer | MAIN | -02E2 | 01E |
| Multi processor | MULTI PRS | -02E | 01A |
| Multi processor | MULTI PIC | -02E | |
| Module microcomputer | MODULE | -06A | 01A |
| Sequence processor | SEQ PRS | -03W_A | 01A |

**Note:** In the 29-32 rows, the Boot version information on each device is displayed.
In the 19-24 rows, the version of the execution program is displayed.

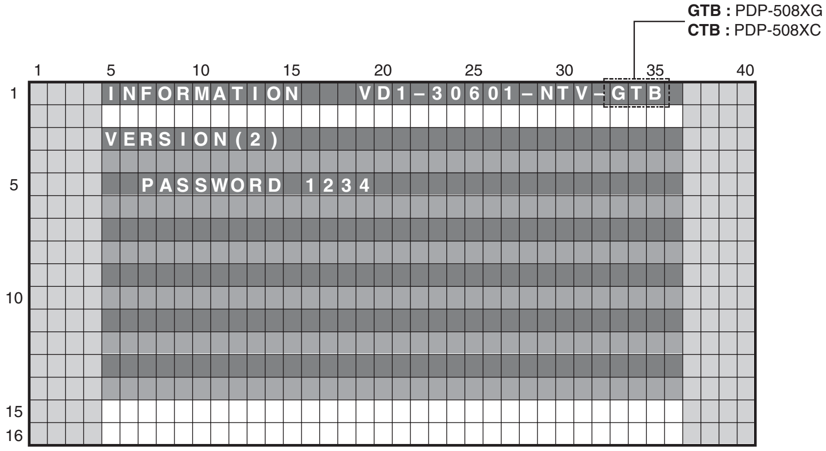
- **PANEL INFO:** It displays the generation of the panel, inchage and the type of the panel. For details on display values and settings, see "10: Panel Information" in "9.3.1. QS1 (PANEL STATUS)."

## 5.2.1.2 VERSION (2)


1 5 10 15 20 25 30 35 40
1
INFORMATION VD1–30601–NTV–UHB
VERSION(2)
5
DTB SOFT 0001
DTB HARD 0001
PASSWORD 1234
10
15
16

### PDP-508XDA

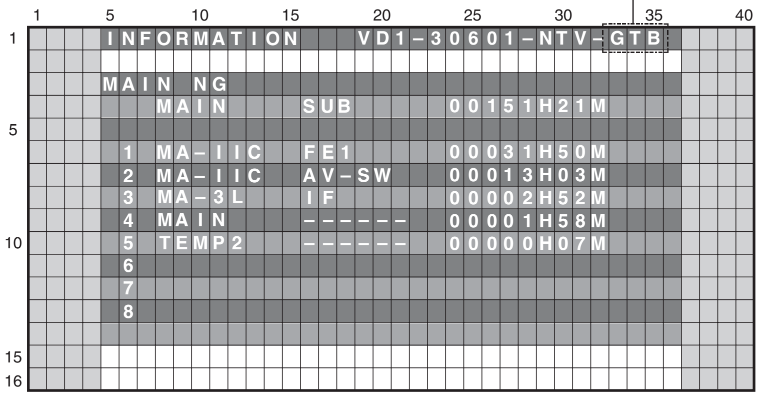
| Meaning | Item Name | Display Example |
|---|---|---|
| DTV Software Version | DTB SOFT | 0001 |
| DTV Hardware Version | DTB HARD | 0001 |
| User Password | PASSWORD | 1234 |


GTB : PDP-508XG
CTB : PDP-508XC
1 5 10 15 20 25 30 35 40
1
INFORMATION VD1–30601–NTV–GTB
VERSION(2)
5
PASSWORD 1234
10
15
16

### PDP-508XG/PDP-508XC

| Meaning | Item Name | Display Example |
|---|---|---|
| User Password | PASSWORD | 1234 |

### 5.2.1.3 MAIN NG



```
INFORMATION   VD1-30601-NTV-GTB

MAIN NG
   MAIN      SUB      00151H21M

 1 MA-IIC    FE1      00031H50M
 2 MA-IIC    AV-SW    00013H03M
 3 MA-3L     IF       00002H52M
 4 MAIN      ------   00001H58M
 5 TEMP2     ------   00000H07M
 6
 7
 8
```

**GTB :** PDP-508XG
**CTB :** PDP-508XC
**UHB :** PDP-508XDA

**MTB side's Shutdown NG information**

| OSD: MAIN | OSD: SUB | Cause of Shutdown |
|---|---|---|
| AUDIO | ---- | Short-circuit of the speaker terminal or failure of audio amplifier. |
| MODULE | ---- | Failure of communication to Module microcomputer. |
| MA-3L | | 3-wire Serial Communication of Main microcomputer. |
| | IF | Communication failure of IF microcomputer |
| | MULTI | Multi Processor communication failure |
| MA-IIC | | IIC Communication failure of Main microcomputer |
| | FE1 | Analog Tuner 1 |
| | MSPMAP | MSP/MAP |
| | AV-SW | AV Switch |
| | RGB-SW | RGB Switch |
| | VDEC | VDEC |
| | SDRAM | VDEC-SDRAM |
| | ADC | AD/PLL |
| | HDMI | HDMI |
| MAIN | | Communication failure of Main microcomputer |
| FAN | FAN1 | Fan stopped |
| | FAN2 | Fan stopped (Only with models having the Full HD panel) |
| TEMP2 | | Abnormally high temperature at MTB. |
| DTUNER (PDP-508XDA only) | | Failure of Digital Tuner |
| | PS/RST | Failure to DTV Starting |
| | RETRY | DTV communication error |
| RST-MA | M-DCDC | Abnormally in RST2 of MTB. (power decrease of DC-DC converter) |
| | RELAY | Relay Power Supply |
| MA-EEP | | IIC communication line between EEPROM and MAIN |

## 5.2.2 OPTION

**Operation item**

| No. | Function | Content | RS-232C |
|---|---|---|---|
| 5.2.2.1 | EDID WRITE MODE ⇔ | DISABLE ⇔ ENABLE | ––– |
| 5.2.2.2 | CH PRESET ⇔ | USER ⇔ FACTORY | ––– |
| 5.2.2.3 | AFT | For factory use | ––– |
| 5.2.2.4 | SYNC DET (+) | Exclusively used for technical analysis | ––– |

### 5.2.2.1 EDID WRITE MODE <=>

Exclusively used for production line.

### 5.2.2.2 CH PRESET <=>

Exclusively used for production line.

### 5.2.2.3 AFT

Exclusively used for production line.

### 5.2.2.4 SYNC DET (+)

Exclusively used for technical analysis (details omitted).

# 6. EACH SETTING AND ADJUSTMENT

EACH SETTING AND ADJUSTMENT of PDP-508XG/DLFT,PDP-508XDA/YP and PDP-508XC/WA5 is the same as PDP-5080XA/WYV5 except for the following:

## 6.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

**Notes on replacing parts**
For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.
If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

**Reason:** The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

| PCB Assy No. | Assy Name | Parts that Require Whole-Assy Replacement | | |
|---|---|---|---|---|
| | | Ref No. | Function Name | Part No. |
| AWV2465 (PDP-428XG, PDP-508XG,PDP-428XDA and PDP-508XDA)<br>AWV2466 (PDP-428XC and PDP-508XC)<br>AWV2467 (PDP-LX508A, PDP-LX608A,PDP-LX508G and PDP-LX608G) | MAIN Assy | IC4601 | AV switch | R2S11006FT |
| | | IC4701 | RGB switch | R2S11001FT |
| | | IC4703 | EEPROM | BR24L01AFJ-W |
| | | IC4801 | MAIN VDEC | CM0048BF |
| | | IC5001 | A/D Converter | AD9985KSTZ-110 |
| | | IC5102 | EEPROM | BR24L02FV-W |
| | | IC5103 | EEPROM | BR24L02FV-W |
| | | IC5203 | EEPROM | BR24L02FV-W |
| | | IC8204 | Flash ROM | AGC1055 (for AWV2467) |
| | | IC8204 | Flash ROM | AGC1051 (for AWV2465, AWV2466) |
| | | IC8301 | Flash UCOM | AGC1037 |
| | | IC8602 | Flash ROM | AGC1047 (for AWV2467) |
| | | IC8602 | Flash ROM | AGC1042 (for AWV2465, AWV2466) |
| AWV2452, AWV2447 | X DRIVE Assy | • Parts of X D-D CON BLOCK | | |
| AWV1262, AWV1260 | Y DRIVE Assy | • Parts of Y VF D-D CON BLOCK<br>• Parts of Y MAIN D-D CON BLOCK 1<br>• Parts of Y MAIN D-D CON BLOCK 2 | | |

| | | |
|---|---|---|
| POWER SUPPLY Unit | ➡ | The assembly must be replaced as a unit, and no part replacement is allowed. |
| MAIN Assy | ➡ | No adjustment is required after replacement of parts other than those mentioned above. |
| DIGITAL Assy | ➡ | No adjustment is required after replacement of parts other than those mentioned above. |
| X DRIVE Assy | ➡ | No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED. |
| Y DRIVE Assy | ➡ | No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED. |
| ADDRESS Assy | ➡ | No adjustment required |
| SENSOR Assy | ➡ | No adjustment is required after replacement of parts other than those mentioned above. |
| TANSHI Assy | ➡ | No adjustment required |

# 7. RS-232C

RS-232C of PDP-508XG/DLFT,PDP-508XDA/YP and PDP-508XC/WA5 is the same as PDP-5080XA/WYV5 except for the following:

## 7.1 LIST OF RS-232C COMMANDS

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| G | | | | | | | |
| GHI | *** | User white balance : GREEN highlight | ● | | | | |
| GLW | *** | User white balance : GREEN low light | ● | | | | |
| I | | | | | | | |
| INA | *** | Switching the terrestrial analog signal (***: channel number) | | ● | Main | | |
| | | Switching the terrestrial analog signal | | ● | Main | | |
| INC | *** | Switching the terrestrial digital signal (PDP-508XDA only)<br>(***:channel number) | | ● | Main | | |
| | | Switching the terrestrial digital signal (PDP-508XDA only) | | ● | Main | | |
| INH | | Switching the HomeGallery | | ● | | | |
| INP | S01 | Input switch: INPUT 1 | | ● | Main | | |
| | S02 | Input switch: INPUT 2 | | ● | Main | | |
| | S03 | Input switch: INPUT 3 | | ● | Main | | |
| | S04 | Input switch: INPUT 4 | | ● | Main | | |
| | S05 | Input switch: INPUT 5 | | ● | Main | | |
| | S06 | Input switch: INPUT 6 | | ● | Main | | |
| | S07 | Input switch: INPUT 7 (PC) | | ● | Main | | |
| M | | | | | | | |
| MKC | S00 | Panel mask indication off | ● | | Mod | | |
| | S01 | H ramp (slant 1) M | ● | | Mod | ● | |
| | S02 | H ramp (slant 4) M | ● | | Mod | ● | |
| | S03 | Slanting ramp M | ● | | Mod | ● | |
| | S04 | 30 for aging | ● | | Mod | ● | |
| | S05 | 05 for aging | ● | | Mod | ● | |
| | S06 | Erasing afterimage 1 | ● | | Mod | ● | |
| | S07 | Erasing afterimage 2 (RGB: zigzag, V: reverse) | ● | | Mod | ● | |
| | S08 | White (change in luminance level) | ● | | Mod | ● | |
| | S09 | PEAK SEEK RASTER | ● | | Mod | ● | |
| | S10 | For engineering use | ● | | Mod | ● | |
| | S11 | Green vertical line scroll | ● | | Mod | ● | |
| | S12 | Green horizontal line scroll | ● | | Mod | ● | |
| | S13 | Vertical ramp vertical scroll (white) | ● | | Mod | ● | |
| | S14 | Vertical ramp vertical scroll (green) | ● | | Mod | ● | |
| | S15 | Horizontal ramp horizontal scroll (white) | ● | | Mod | ● | |
| | S16 | Horizontal ramp horizontal scroll (green) | ● | | Mod | ● | |
| | S17 | Cross hatch + window | ● | | Mod | ● | |
| MKS | S00 | MASK off | ● | | Mod | | |
| | S01 | H ramp (slant 1) | ● | | Mod | ● | |
| | S02 | H ramp (slant 4) | ● | | Mod | ● | |
| | S03 | V ramp (slant 1) | ● | | Mod | ● | |
| | S04 | Slanting ramp | ● | | Mod | ● | |
| | S05 | Window (Hi= 870, Lo= 102) | ● | | Mod | ● | |

# 7.2 DETAILS OF EACH COMMANDS

## 7.2.1 QSE (DESTINATION PECULIAR INFORMATION)

Induce it peculiar, individual information is acquired.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QSE] | Every time | Output of status | |

### PDP-508XG/PDP-508XC

| Order | Part | Data Arrangement | Data Length | Output Example |
|---|---|---|---|---|
| 0 | – | Received Command name | 3 byte | QSE |
| 1 | | Reserved | 4 byte | **** |
| 2 | | USER PASSWORD | 4 byte | 1234 |
| 3 | – | Check Sum | 2 byte | 03 |

### PDP-508XDA

| Order | Part | Data Arrangement | Data Length | Output Example |
|---|---|---|---|---|
| 0 | – | Received Command name | 3 byte | QSE |
| 1 | | DTV Software Version | 4 byte | 0001 |
| 2 | | DTV Hardware Version | 4 byte | 0001 |
| 3 | | Reserved | 4 byte | **** |
| 4 | | USER PASSWORD | 4 byte | 1234 |
| 5 | – | Check Sum | 2 byte | 03 |

## 7.2.2 QNG (SHUTDOWN INFORMATION OF MTB)

MTB side's shutdown information is acquired.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QNG] | Every time | Output of status | |

| Order | Part | Data Arrangement | Data Length | Output Example |
|---|---|---|---|---|
| 0 | – | Received Command name | 3 byte | QNG |
| 1 | MTB | 1st latest NG No. | 1 byte | 0 |
| 2 | | Subcategory No. for the 1st latest NG. | 1 byte | 0 |
| 3 | | MTB hour meter for the 1st latest NG. | 7 byte | 0000000 |
| 4 | | Reserved | 3 byte | Fixed on 000 |
| 5 | | 2nd latest NG No. | 1 byte | 0 |
| 6 | | Subcategory No. for the 2nd latest NG. | 1 byte | 0 |
| 7 | | MTB hour meter for the 2nd latest NG. | 7 byte | 0000000 |
| 8 | | Reserved | 3 byte | Fixed on 000 |
| 9 | | 3rd latest NG No. | 1 byte | 0 |
| 10 | | Subcategory No. for the 3rd latest NG. | 1 byte | 0 |
| 11 | | MTB hour meter for the 3rd latest NG. | 7 byte | 0000000 |
| 12 | | Reserved | 3 byte | Fixed on 000 |
| : | | : | : | |
| 29 | | 8th latest NG No. | 1 byte | 0 |
| 30 | | Subcategory No. for the 8th latest NG. | 1 byte | 0 |
| 31 | | MTB hour meter for the 8th latest NG. | 7 byte | 0000000 |
| 32 | | Reserved | 3 byte | Fixed on 000 |
| 33 | – | Check Sum | 2 byte | 00 |

**< SD Information No. >**

| Frequency * | Part | Part | Remarks (Operation) |
|---|---|---|---|
| 5 | MTB part | Shutdown signal from audio amp. / short-circuit of speaker terminal | Shutdown after 30 seconds warning |
| 6 | | Failure of communication with Module microcomputer | Immediately Shutdown |
| 7 | | 3-wire serial communication of Main microcomputer | Go to No. 7 Subcategory Information |
| 8 | | IIC communication failure of MTB side | Go to No. 8 Subcategory Information |
| 9 | | Communication failure of Main microcomputer | Immediately Shutdown |
| 10(A) | | Failure of FAN | Go to No. 10 Subcategory Information |
| 11(B) | | Abnormally in high temperature | Shutdown after 30 seconds warning |
| 12(C) | | Failure of Digital Tuner | Go to No. 12 Subcategory Information (PDP-508XDA only) |
| 13(D) | | Failure of Power Supply at MTB side | Go to No. 13 Subcategory Information |
| 15(F) | | Failure of Main EEPROM | Immediately Shutdown |

*: Indicates the frequency of Blue LED flashing when the shutdown is occurred.

### < No. 7 Subcategory Information on "Failure in 3-wire serial communication of Main microcomputer" >

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | Communication error of IF microcomputer | Shutdown |
| 2 | Communication error of sequence processor | Shutdown |

### < No. 8 Subcategory Information on "Failure in IIC communication of MTB side" >

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | Tuner 1 | Shutdown |
| 2 | MSP/MAP | Shutdown |
| 3 | AV Switch | Shutdown |
| 4 | RGB Switch | Shutdown |
| 5 | VDEC | Shutdown |
| 6 | VDEC-SDRAM | Shutdown |
| 7 | AD/PLL | Shutdown |
| 8 | HDMI | Shutdown |

### < No. 10 Subcategory Information on "Abnormally in FAN" >

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | FAN 1 | Shutdown |
| 2 | FAN 2 (FHD only) | Shutdown |

### < No. 12 Subcategory Information on "Failure in Digital Tuner" > (PDP-508XDA only)

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | DTV starting failure | Communication stop |
| 2 | DTV communication error | Shutdown |

### < No. 13 Subcategory Information on "Failure in Power supply at MTB side" >

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | RST 2 | Shutdown |
| 2 | RST 4 | Shutdown |

# 8. GENERAL INFORMATION

GENERAL INFORMATION of PDP-508XG/DLFT,PDP-508XDA/YP and PDP-508XC/WA5 is the same as PDP-5080XA/WYV5 except for the following:

## 8.1 DISPLAY METHOD OF SIGNAL LEVEL,QUALTY,AND BER INFORMATION SCREEN
## (PDP-508XDA Only)

Display Method of Signal Level, Quality, and BER Information Screen

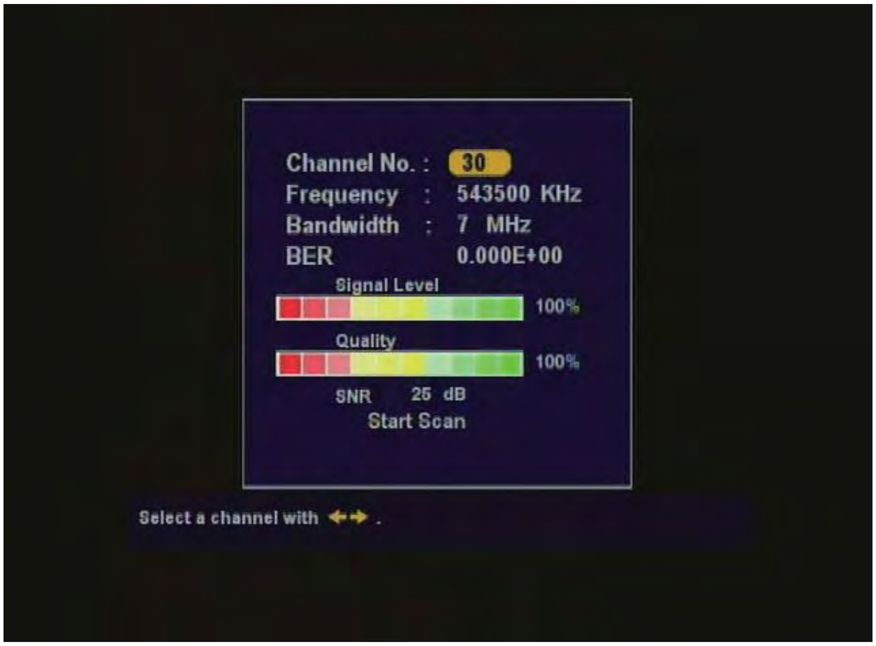
MANUAL SCAN screen has these information.

Operation : Manual Scan
HOMEMENU => Setup => DTV Setup => Installation => Input Password =>Manual Scan

Signal Level
Quality
"Signal Level" and "Quality" are displayed on Manual Scan screen.
These level indicater are laugh standard.
Please use them as reference

BER
While displaying Manual Scan screen, please press the following keys within 5 seconds.
Operation : BER
1. Green Key
2. I-II Key
3. Enter Key

This BER function is effective until turning off power.



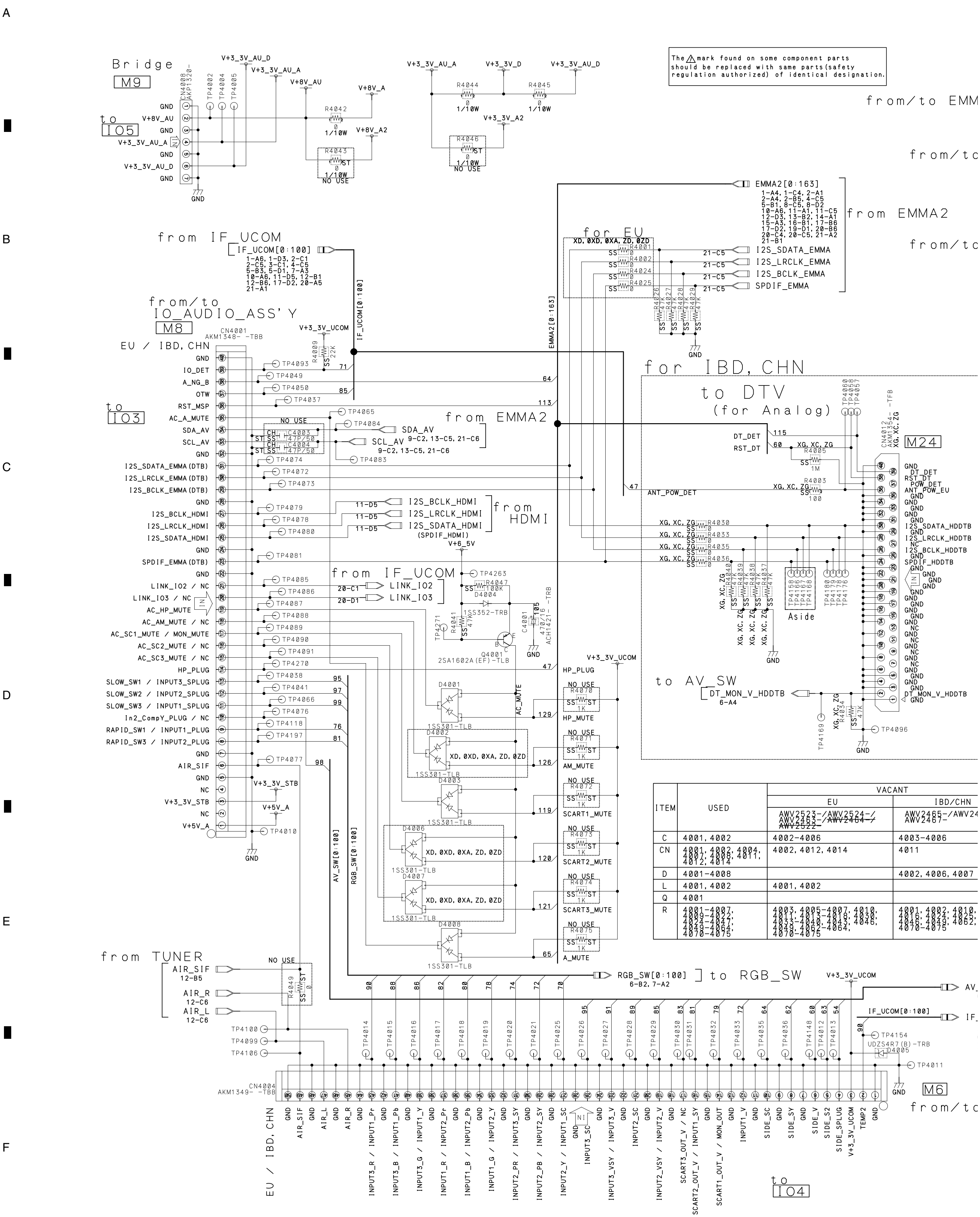
Channel No. : 30
Frequency : 543500 KHz
Bandwidth : 7 MHz
BER 0.000E+00
Signal Level 100%
Quality 100%
SNR 25 dB
Start Scan
Select a channel with ←→ .

Fig : Manual Scan screen

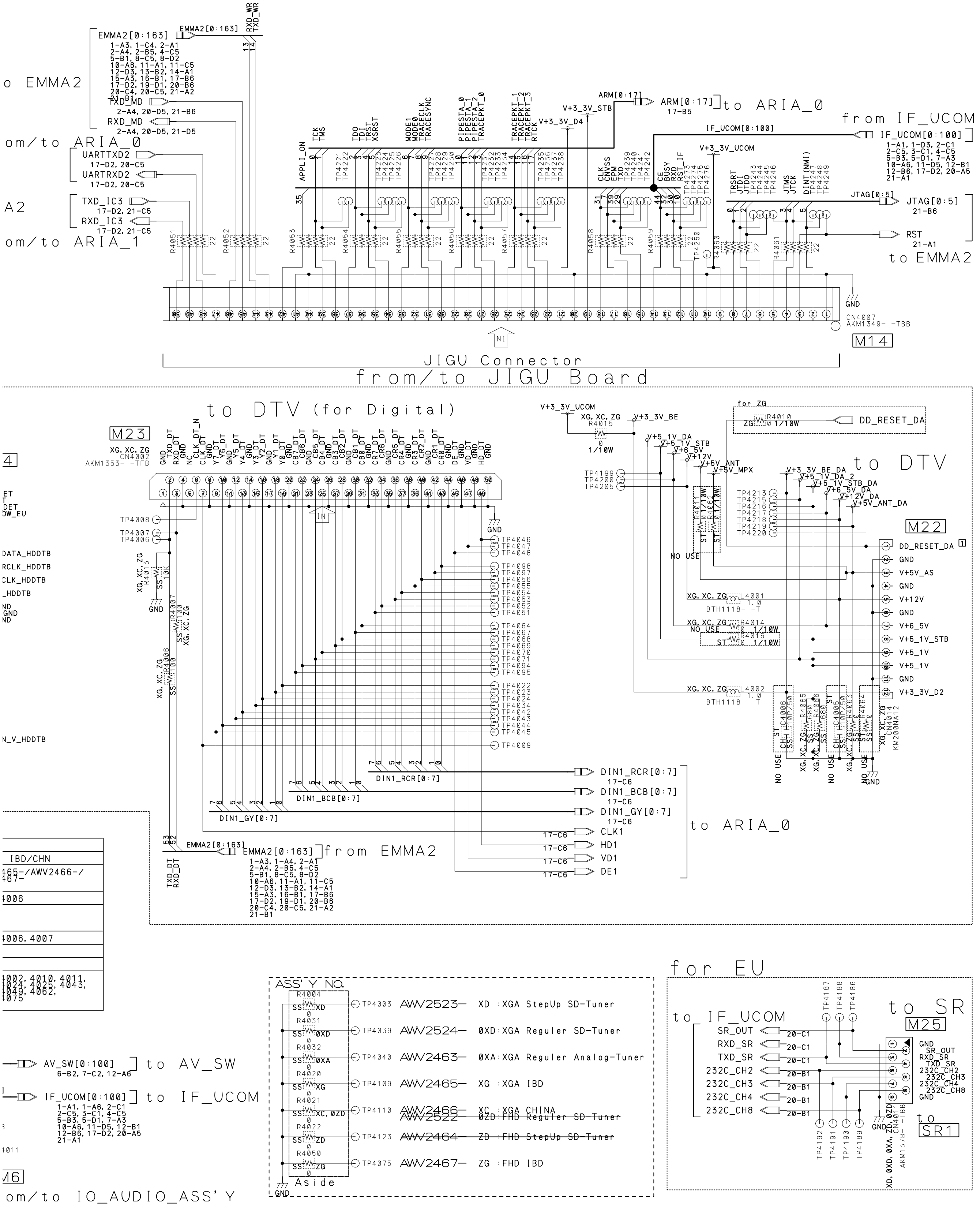
# 9. SCHEMATIC DIAGRAM

## 9.1 MAIN ASSY (1/20) [BOARD IF0 BLOCK]

The ⚠ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.


A
B
C
D
E
F
Bridge
M9
to
IO5
CN4008
AKP1320-
GND
V+8V_AU
GND
V+3_3V_AU_A
GND
V+3_3V_AU_D
GND
TP4002
TP4004
TP4005
V+3_3V_AU_D
V+3_3V_AU_A
V+8V_AU
V+8V_A
V+8V_A2
R4042
0
1/10W
R4043
ST
0
1/10W
NO USE
V+3_3V_AU_A
V+3_3V_D
V+3_3V_AU_D
R4044
0
1/10W
R4045
0
1/10W
V+3_3V_A2
R4046
ST
0
1/10W
NO USE
from/to EMM
from/tc
EMMA2[0:163]
1-A4, 1-C4, 2-A1
2-A4, 2-B5, 4-C5
5-B1, 8-C5, 8-D2
10-A6, 11-A1, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
from EMMA2
for EU
XD, 0XD, 0XA, ZD, 0ZD
R4001
R4002
R4024
R4025
21-C5
I2S_SDATA_EMMA
I2S_LRCLK_EMMA
I2S_BCLK_EMMA
SPDIF_EMMA
R4026
R4027
R4028
R4029
47K
from IF_UCOM
IF_UCOM[0:100]
1-A6, 1-D3, 2-C1
2-C5, 3-C1, 4-C5
5-B3, 5-D1, 7-A3
10-A6, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
IF_UCOM[0:100]
EMMA2[0:163]
from/to
IO_AUDIO_ASS'Y
M8
CN4001
AKM1348- -TBB
EU / IBD, CHN
V+3_3V_UCOM
R4009
22K
to
IO3
GND
IO_DET
A_NG_B
OTW
RST_MSP
AC_A_MUTE
SDA_AV
SCL_AV
GND
I2S_SDATA_EMMA(DTB)
I2S_LRCLK_EMMA(DTB)
I2S_BCLK_EMMA(DTB)
GND
I2S_BCLK_HDMI
I2S_LRCLK_HDMI
I2S_SDATA_HDMI
GND
SPDIF_EMMA(DTB)
GND
LINK_IO2 / NC
LINK_IO3 / NC
AC_HP_MUTE
AC_AM_MUTE / NC
AC_SC1_MUTE / MON_MUTE
AC_SC2_MUTE / NC
AC_SC3_MUTE / NC
HP_PLUG
SLOW_SW1 / INPUT3_SPLUG
SLOW_SW2 / INPUT2_SPLUG
SLOW_SW3 / INPUT1_SPLUG
In2_CompY_PLUG / NC
RAPID_SW1 / INPUT1_PLUG
RAPID_SW3 / INPUT2_PLUG
GND
AIR_SIF
GND
NC
V+3_3V_STB
NC
V+5V_A
GND
TP4093
TP4049
TP4050
TP4037
TP4065
TP4084
NO USE
C4003
C4004
47P/50
SDA_AV
SCL_AV
9-C2, 13-C5, 21-C6
TP4083
from EMMA2
TP4074
TP4072
TP4073
TP4079
TP4078
TP4080
11-D5
I2S_BCLK_HDMI
I2S_LRCLK_HDMI
I2S_SDATA_HDMI
(SPDIF_HDMI)
from
HDMI
TP4081
V+6_5V
from IF_UCOM
TP4085
TP4086
20-C1
20-D1
LINK_IO2
LINK_IO3
TP4263
R4047
100K
D4004
1SS352-TRB
TP4087
TP4088
TP4089
TP4090
TP4091
TP4270
TP4271
R4041
47K
C4001
10
470/16
ACH1421- -TRB
Q4001
2SA1602A(EF)-TLB
TP4038
TP4041
TP4066
TP4076
TP4118
TP4197
TP4077
TP4010
V+3_3V_STB
V+5V_A
for IBD, CHN
to DTV
(for Analog)
TP4060
TP4058
TP4057
DT_DET
RST_DT
XG, XC, ZG
R4005
1M
R4003
100
ANT_POW_DET
CN4012
AKM1354- -TFB
M24
GND
DT_DET
RST_DT
POW_DET
ANT_POW_EU
I2S_SDATA_HDDTB
I2S_LRCLK_HDDTB
NC
I2S_BCLK_HDDTB
SPDIF_HDDTB
DT_MON_V_HDDTB
R4030
R4033
R4035
R4036
R4040
R4039
R4038
R4037
TP4158
TP4166
TP4167
TP4168
Aside
TP4180
TP4179
TP4178
TP4176
to AV_SW
DT_MON_V_HDDTB
6-A4
TP4169
R4034
47K
TP4096
V+3_3V_UCOM
HP_PLUG
D4001
1SS301-TLB
NO USE
R4070
1K
HP_MUTE
AC_MUTE
D4002
XD, 0XD, 0XA, ZD, 0ZD
R4071
AM_MUTE
D4003
R4072
SCART1_MUTE
D4006
R4073
SCART2_MUTE
D4007
R4074
SCART3_MUTE
D4008
R4075
A_MUTE
AV_SW[0:100]
RGB_SW[0:100]
RGB_SW[0:100]
6-B2, 7-A2
to RGB_SW
from TUNER
AIR_SIF
12-B5
AIR_R
12-C6
AIR_L
12-C6
NO USE
R4049
TP4100
TP4099
TP4106
TP4014
TP4015
TP4016
TP4017
TP4018
TP4019
TP4020
TP4021
TP4025
TP4026
TP4027
TP4028
TP4029
TP4030
TP4031
TP4032
TP4033
TP4035
TP4036
TP4148
TP4012
TP4013
AV_
IF_UCOM[0:100]
IF_
TP4154
UDZS4R7(B)-TRB
D4005
TP4011
CN4004
AKM1349- -TBB
M6
from/tc
EU / IBD, CHN
GND
AIR_SIF
GND
AIR_L
GND
AIR_R
GND
INPUT3_R / INPUT1_Pr
INPUT3_B / INPUT1_Pb
INPUT3_G / INPUT1_Y
INPUT1_R / INPUT2_Pr
INPUT1_B / INPUT2_Pb
INPUT1_G / INPUT2_Y
INPUT2_PR / INPUT3_SY
INPUT2_PB / INPUT2_SY
INPUT2_Y / INPUT1_SC
INPUT3_SC
INPUT3_VSY / INPUT3_V
INPUT2_SC
INPUT2_VSY / INPUT2_V
SCART3_OUT_V / NC
SCART2_OUT_V / INPUT1_SY
SCART1_OUT_V / MON_OUT
INPUT1_V
SIDE_SC
SIDE_SY
SIDE_V
SIDE_S2
SIDE_SPLUG
V+3_3V_UCOM
TEMP2
to
IO4

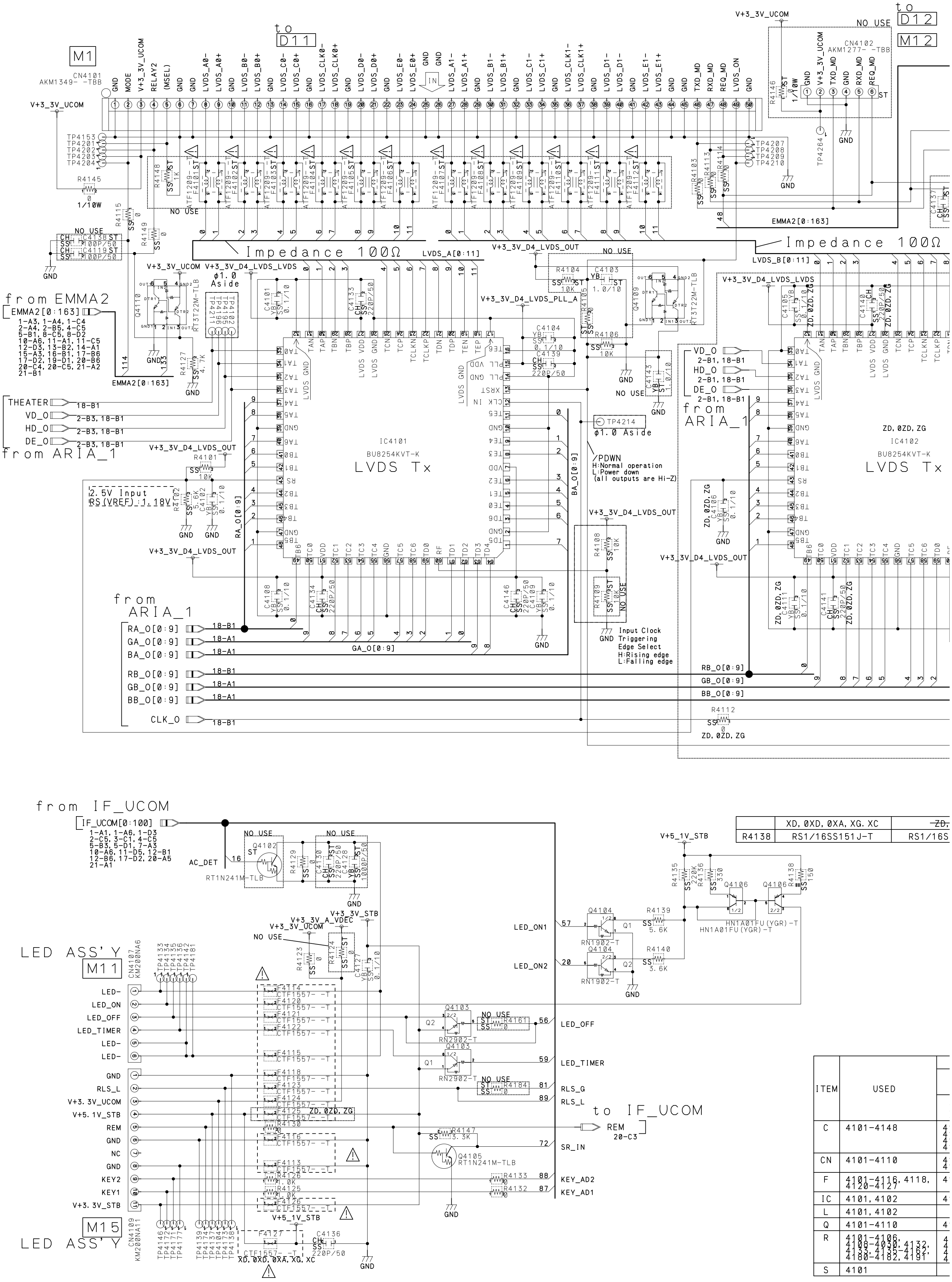
| ITEM | USED | VACANT | |
|---|---|---|---|
| | | EU | IBD/CHN |
| | | AWV2523-/AWV2524-/<br>AWV2463-/~~AWV2464-/~~<br>~~AWV2522-~~ | AWV2465-/AWV24<br>AWV2467- |
| C | 4001, 4002 | 4002-4006 | 4003-4006 |
| CN | 4001, 4002, 4004, 4007, 4008, 4011, 4012, 4014 | 4002, 4012, 4014 | 4011 |
| D | 4001-4008 | | 4002, 4006, 4007 |
| L | 4001, 4002 | 4001, 4002 | |
| Q | 4001 | | |
| R | 4001-4007, 4009-4022, 4024-4047, 4049-4064, 4070-4075 | 4003, 4005-4007, 4010, 4011, 4013-4018, 4030, 4033-4040, 4043, 4046, 4049, 4062-4064, 4070-4075 | 4001, 4002, 4010, 4016, 4024, 4025, 4046, 4049, 4062, 4070-4075 |


EMMA2[0:163]
1-A3, 1-C4, 2-A1
2-A4, 2-B5, 4-C5
5-B1, 8-C5, 8-D2
10-A6, 11-A1, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
o EMMA2
RXD_WR
TXD_WR
TXD_MD
2-A4, 20-D5, 21-B6
RXD_MD
2-A4, 20-D5, 21-D5
om/to ARIA_0
UARTTXD2
17-D2, 20-C5
UARTRXD2
17-D2, 20-C5
A2
TXD_IC3
17-D2, 21-C5
RXD_IC3
17-D2, 21-C5
om/to ARIA_1
ARM[0:17]
17-B5
to ARIA_0
V+3_3V_STB
V+3_3V_D4
from IF_UCOM
IF_UCOM[0:100]
1-A1, 1-D3, 2-C1
2-C5, 3-C1, 4-C5
5-B3, 5-D1, 7-A3
10-A6, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
V+3_3V_UCOM
APPLI_ON
TCK
TMS
TDO
TDI
TRST
XSRST
MODE1
MODE0
TRACECLK
TRACE
TRACESYNC
PIPESTA_0
PIPESTA_1
PIPESTA_2
TRACEPKT_0
TRACEPKT_1
TRACEPKT_2
TRACEPKT_3
RTCK
CLK
CNVSS
EPM
TXD
CE
BUSY
RXD
RST_IF
TRSRT
JTDI
JTDO
JTMS
JTCK
DINT(NMI)
JTAG[0:5]
21-B6
RST
21-A1
to EMMA2
R4051
R4052
R4053
R4054
R4055
R4056
R4057
R4058
R4059
R4060
R4061
TP4250
22
GND
CN4007
AKM1349- -TBB
M14
NI
JIGU Connector
from/to JIGU Board
to DTV (for Digital)
M23
XG, XC, ZG
CN4002
AKM1353- -TFB
GND
TXD_DT
RXD_DT
NC
CLK_DT_N
CLK_DT
Y7_DT
Y6_DT
Y5_DT
Y4_DT
Y3_DT
Y2_DT
Y1_DT
Y0_DT
CB7_DT
CB6_DT
CB5_DT
CB4_DT
CB3_DT
CB2_DT
CB1_DT
CB0_DT
CR7_DT
CR6_DT
CR5_DT
CR4_DT
CR3_DT
CR2_DT
CR1_DT
CR0_DT
DE_DT
VD_DT
HD_DT
IN
TP4008
TP4007
TP4006
R4013
SS 10K
R4007
SS 100
R4006
SS 100
TP4046
TP4047
TP4048
TP4098
TP4097
TP4056
TP4055
TP4054
TP4053
TP4052
TP4051
TP4064
TP4067
TP4068
TP4069
TP4070
TP4071
TP4094
TP4095
TP4022
TP4023
TP4024
TP4034
TP4042
TP4043
TP4044
TP4045
TP4009
DIN1_RCR[0:7]
DIN1_BCB[0:7]
DIN1_GY[0:7]
17-C6
CLK1
HD1
VD1
DE1
to ARIA_0
EMMA2[0:163]
from EMMA2
1-A3, 1-A4, 2-A1
2-A4, 2-B5, 4-C5
5-B1, 8-C5, 8-D2
10-A6, 11-A1, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
TXD_DT
RXD_DT
ET
DET
OW_EU
DATA_HDDTB
RCLK_HDDTB
CLK_HDDTB
_HDDTB
N_V_HDDTB
IBD/CHN
465-/AWV2466-/
467-
4006
4006, 4007
4002, 4010, 4011,
4024, 4025, 4043,
4049, 4062,
4075
V+3_3V_UCOM
XG, XC, ZG
V+3_3V_BE
R4015
0
1/10W
V+5_1V_DA
V+5_1V_STB
V+6_5V
V+12V
V+5V_ANT
V+5V_MPX
TP4199
TP4200
TP4205
R4011
R4012
0 1/10W
NO USE
for ZG
R4010
ZG 0 1/10W
DD_RESET_DA
to DTV
V+3_3V_BE_DA
V+5_1V_DA_2
V+5_1V_STB_DA
V+6_5V_DA
V+12V_DA
V+5V_ANT_DA
TP4213
TP4215
TP4216
TP4217
TP4218
TP4219
TP4220
M22
DD_RESET_DA
GND
V+5V_AS
GND
V+12V
GND
V+6_5V
V+5_1V_STB
V+5_1V
V+5_1V
GND
V+3_3V_D2
L4001
1.0
BTH1118- -T
R4014
0 1/10W
R4016
ST 0 1/10W
L4002
1.0
BTH1118- -T
C4006
C4005
R4065
R4066
R4063
R4064
CH 10P/50
SS 680
CN4011
KM200NA12
NO USE
GND
AV_SW[0:100]
6-B2, 7-C2, 12-A6
to AV_SW
IF_UCOM[0:100]
1-A1, 1-A6, 2-C1
2-C5, 3-C1, 4-C5
5-B3, 5-D1, 7-A3
10-A6, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
to IF_UCOM
M6
om/to IO_AUDIO_ASS'Y
ASS'Y NO.
R4004
SS XD
TP4003
AWV2523- XD :XGA StepUp SD-Tuner
R4031
SS 0XD
TP4039
AWV2524- 0XD:XGA Reguler SD-Tuner
R4032
SS 0XA
TP4040
AWV2463- 0XA:XGA Reguler Analog-Tuner
R4020
SS XG
TP4109
AWV2465- XG :XGA IBD
R4021
SS XC, 0ZD
TP4110
~~AWV2466- XC :XGA CHINA~~
~~AWV2522- 0ZD:FHD Reguler SD-Tuner~~
R4022
SS ZD
TP4123
~~AWV2464- ZD :FHD StepUp SD-Tuner~~
R4050
SS ZG
TP4075
AWV2467- ZG :FHD IBD
Aside
GND
for EU
to IF_UCOM
SR_OUT
RXD_SR
TXD_SR
232C_CH2
232C_CH3
232C_CH4
232C_CH8
20-C1
20-B1
TP4187
TP4188
TP4186
TP4192
TP4191
TP4190
TP4189
to SR
M25
GND
SR_OUT
RXD_SR
TXD_SR
232C_CH2
232C_CH3
232C_CH4
232C_CH8
GND
XD, 0XD, 0XA, ZD
CN4011
AKM1378- -TBB
to SR1

MAIN ASS'Y (EU/IBD/CHN) (01/22)
BOARD_IF_0 BLOCK

AWV2523- : AWV2524- :
AWV2463- : AWV2465- :
AWV2466- : AWV2467-

# 9.2 MAIN ASSY (2/20) [BOARD IF1 BLOCK]

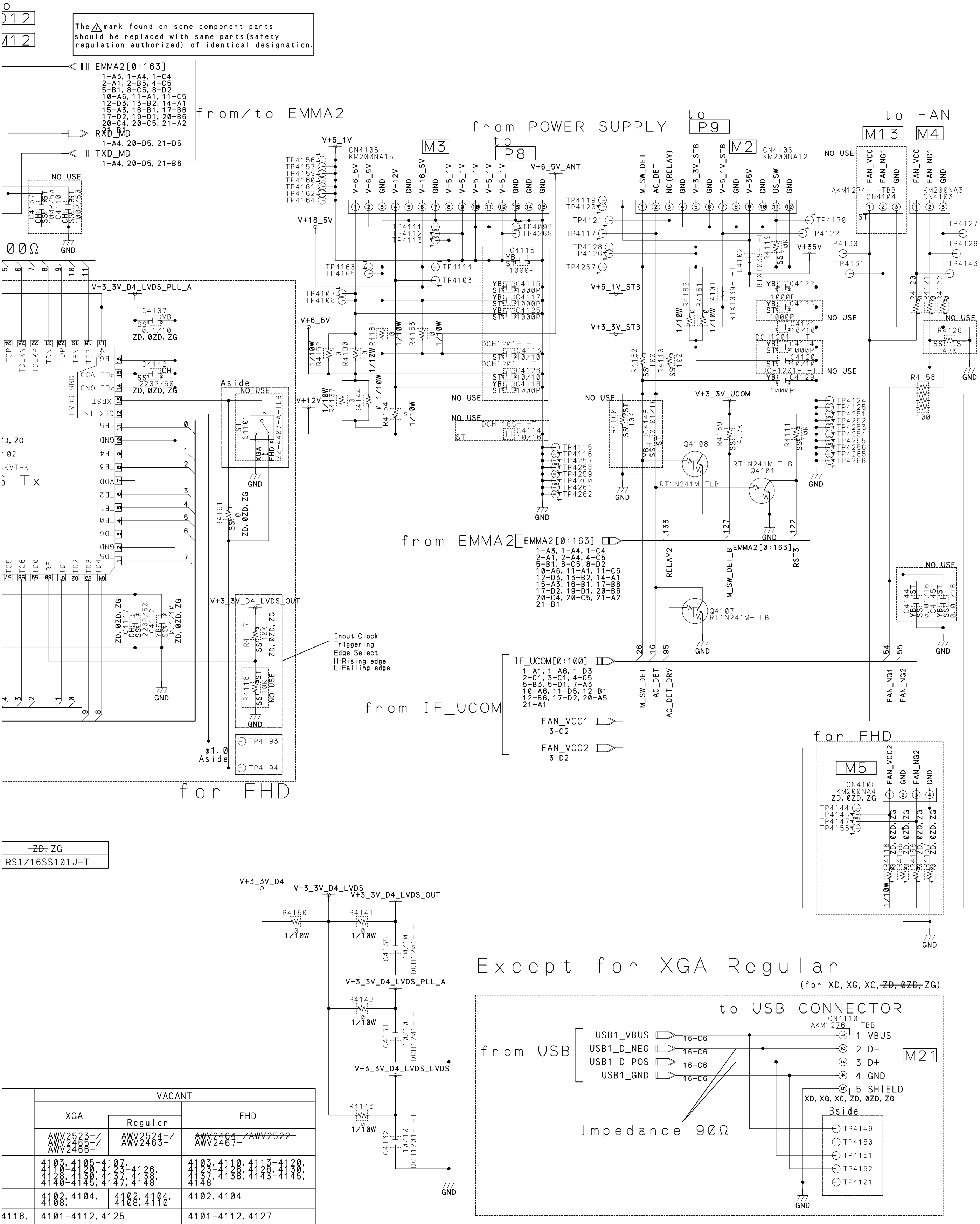


A
B
C
D
E
F
M1
CN4101
AKM1349- -TBB
to D11
to D12
NO USE
M12
CN4102
AKM1277- -TBB
V+3_3V_UCOM
Impedance 100Ω
LVDS_A[0:11]
LVDS_B[0:11]
EMMA2[0:163]
from EMMA2
THEATER
VD_O
HD_O
DE_O
from ARIA_1
IC4101
BU8254KVT-K
LVDS Tx
IC4102
BU8254KVT-K
LVDS Tx
V+3_3V_D4_LVDS_LVDS
V+3_3V_D4_LVDS_OUT
V+3_3V_D4_LVDS_PLL_A
2.5V Input
RS(VREF):1.18V
/PDWN
H:Normal operation
L:Power down
(all outputs are Hi-Z)
TP4214
ϕ1.0 Aside
Input Clock
Triggering
Edge Select
H:Rising edge
L:Falling edge
RA_O[0:9]
GA_O[0:9]
BA_O[0:9]
RB_O[0:9]
GB_O[0:9]
BB_O[0:9]
CLK_O
from IF_UCOM
IF_UCOM[0:100]
AC_DET
Q4102
RT1N241M-TLB
LED ASS'Y
M11
CN4107
KM200NA6
LED ASS'Y
M15
CN4109
KM200NA11
LED-
LED_ON
LED_OFF
LED_TIMER
RLS_L
V+3.3V_UCOM
V+5.1V_STB
REM
NC
KEY2
KEY1
V+3.3V_STB
Q4103
RN2902-T
Q4104
RN1902-T
Q4105
RT1N241M-TLB
Q4106
HN1A01FU(YGR)-T
LED_ON1
LED_ON2
LED_OFF
LED_TIMER
RLS_G
RLS_L
to IF_UCOM
REM
20-C3
SR_IN
KEY_AD2
KEY_AD1
V+5_1V_STB
V+3_3V_A_VDEC
XD, 0XD, 0XA, XG, XC
GND

|  | XD, 0XD, 0XA, XG. XC | ~~ZD,~~ |
|---|---|---|
| R4138 | RS1/16SS151J-T | RS1/16S |

| ITEM | USED |  |
|---|---|---|
| C | 4101-4148 | 4<br>4<br>4<br>4 |
| CN | 4101-4110 | 4<br>4 |
| F | 4101-4116, 4118,<br>4120-4127 | 4 |
| IC | 4101, 4102 | 4 |
| L | 4101, 4102 |  |
| Q | 4101-4110 | 4 |
| R | 4101-4106,<br>4108-4030, 4132,<br>4133, 4135-4162,<br>4180-4182, 4191 | 4<br>4<br>4<br>4 |
| S | 4101 |  |

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.



from/to EMMA2
EMMA2[0:163]
RXD_MD
TXD_MD
from POWER SUPPLY
to P9
to P8
M3
M2
CN4105 KM200NA15
CN4106 KM200NA12
V+5_1V
V+6_5V_ANT
V+16_5V
V+6_5V
V+12V
V+5_1V_STB
V+3_3V_STB
V+35V
M_SW_DET
AC_DET
NC(RELAY)
US_SW
to FAN
M13
M4
CN4104 AKM1274- -TBB
CN4103 KM200NA3
FAN_VCC
FAN_NG1
FAN_NG2
GND
NO USE
V+3_3V_D4_LVDS_PLL_A
V+3_3V_D4_LVDS_OUT
V+3_3V_UCOM
Aside
S4101 XGA FHD
ZD, 0ZD, ZG
Input Clock Triggering Edge Select H:Rising edge L:Falling edge
Q4108 RT1N241M-TLB
Q4101 RT1N241M-TLB
Q4107 RT1N241M-TLB
from EMMA2
RELAY2
M_SW_DET_B
RST3
from IF_UCOM
IF_UCOM[0:100]
AC_DET_DRV
FAN_VCC1 3-C2
FAN_VCC2 3-D2
for FHD
M5
CN4108 KM200NA4
for FHD
~~ZD,~~ ZG
RS1/16SS101J-T
V+3_3V_D4
V+3_3V_D4_LVDS
V+3_3V_D4_LVDS_OUT
V+3_3V_D4_LVDS_LVDS
R4150 R4141 R4142 R4143
C4135 C4131 C4132
Except for XGA Regular
(for XD, XG, XC, ~~ZD, 0ZD,~~ ZG)
to USB CONNECTOR
CN4110 AKM1276- -TBB
M21
from USB
USB1_VBUS
USB1_D_NEG
USB1_D_POS
USB1_GND
16-C6
1 VBUS
2 D-
3 D+
4 GND
5 SHIELD
XD, XG, XC, ZD, 0ZD, ZG
Bside
TP4149 TP4150 TP4151 TP4152 TP4101
Impedance 90Ω
GND

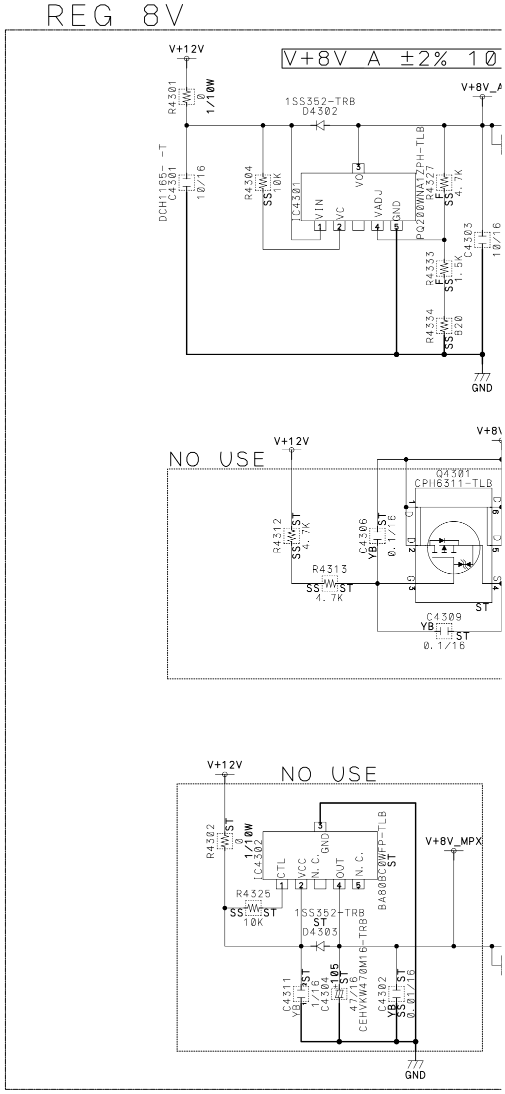
| | VACANT | | |
|---|---|---|---|
| | XGA | | FHD |
| | | Reguler | |
| | AWV2523-/<br>AWV2465-/<br>AWV2466- | AWV2524-/<br>AWV2463- | ~~AWV2464-/AWV2522-~~<br>AWV2467- |
| | 4103, 4105-4107, 4110-4120, 4123-4126, 4128, 4130, 4137, 4138, 4140-4145, 4147, 4148 | | 4103, 4110, 4113-4120, 4123-4126, 4128, 4130, 4137, 4138, 4143-4145, 4148 |
| | 4102, 4104, 4108, | 4102, 4104, 4108, 4110 | 4102, 4104 |
| 4118, | 4101-4112, 4125 | | 4101-4112, 4127 |
| | 4102 | | |
| | | | |
| | 4102 | | 4102 |
| 4132,<br>4162,<br>4191 | 4104, 4105, 4109, 4112, 4116-4118, 4124, 4128, 4146, 4148, 4155-4157, 4160, 4161, 4184, 4191 | | 4104, 4105, 4109, 4118, 4124, 4128, 4146, 4148, 4160, 4161, 4184, 4191 |
| | | | |

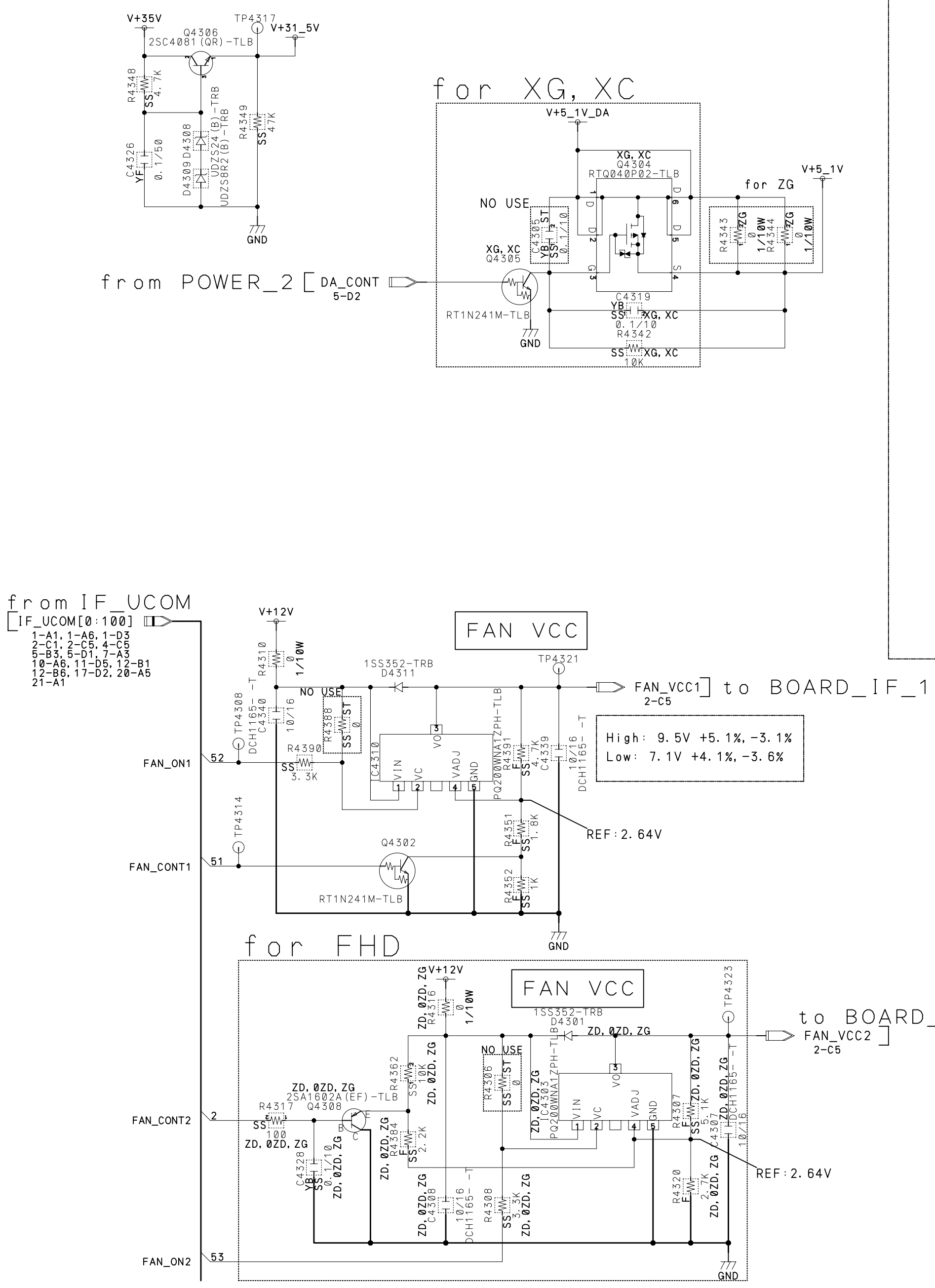
MAIN ASS'Y (EU/IBD/CHN) (02/22)
BOARD_IF_1 BLOCK

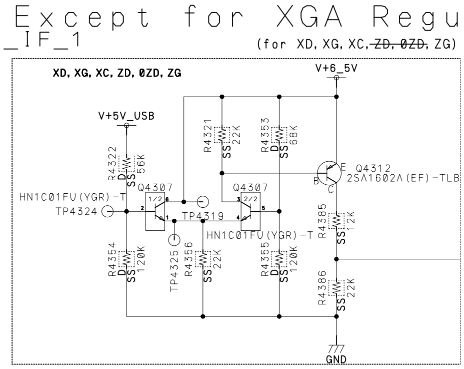
AWV2523- : AWV2524- :
AWV2465- : AWV2463- :
AWV2466- : AWV2467-

# 9.3 MAIN ASSY (3/20) [POWER 0 BLOCK]

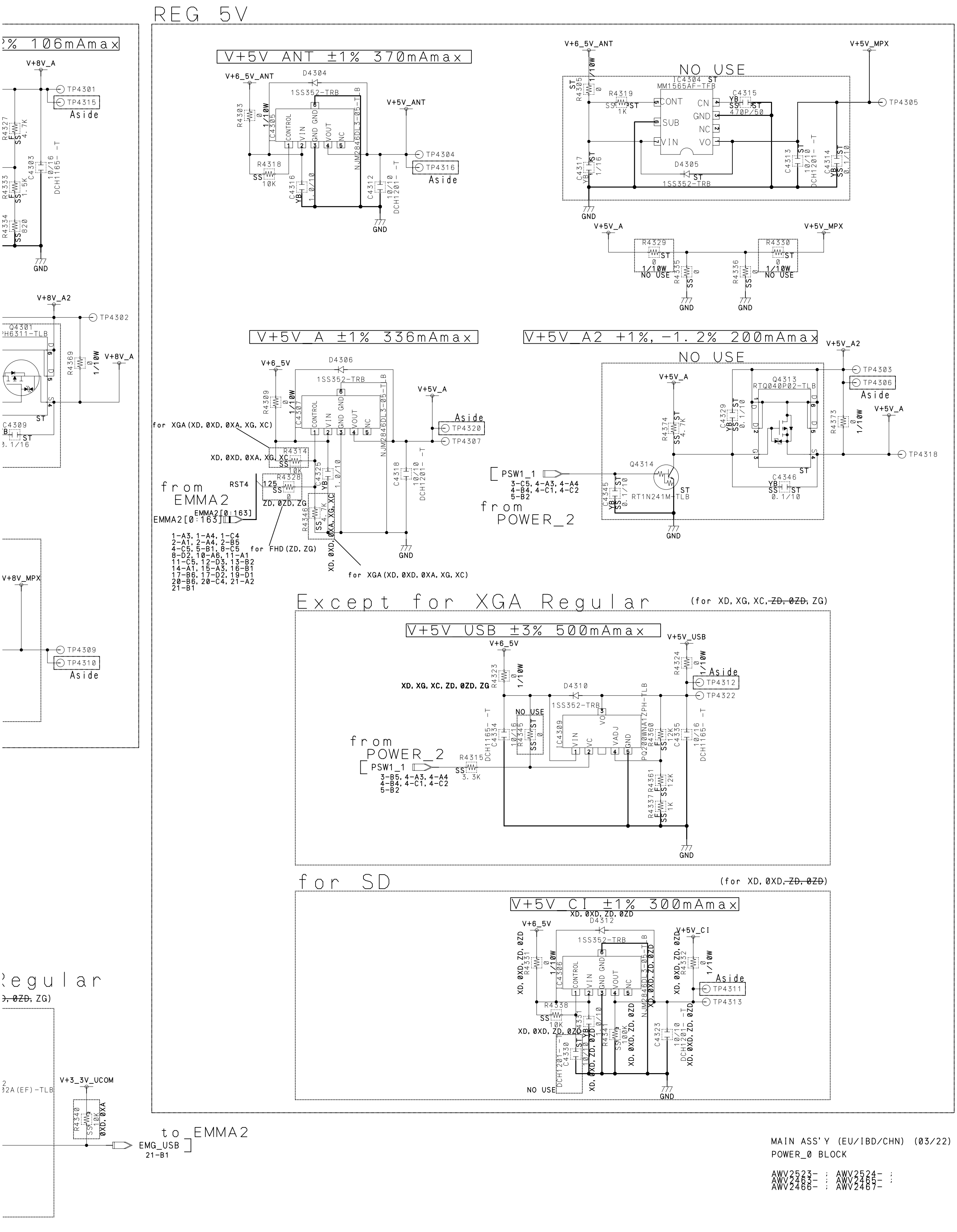
| ITEM | USED | VACANT | | | | | |
|---|---|---|---|---|---|---|---|
| | | AWV2523- | AWV2524- | AWV2463- | AWV2465-/<br>AWV2466- | AWV2464-/<br>AWV2522- | AWV2467- |
| C | 4301-4319, 4323, 4325, 4326, 4328-4331, 4334, 4335, 4339, 4340, 4345, 4346 | 4302, 4304-4311, 4313-4315, 4317, 4319, 4328-4330, 4345, 4346 | 4302, 4304-4311, 4313-4315, 4317, 4319, 4328-4330, 4334, 4335, 4345, 4346 | 4302, 4304-4311, 4313-4315, 4317, 4319, 4323, 4328-4331, 4334, 4335, 4345, 4346 | 4302, 4304, 4306-4311, 4313-4315, 4317, 4319, 4323, 4328-4331, 4345, 4346 | 4302, 4304-4306, 4309-4311, 4313-4315, 4317, 4319, 4329, 4330, 4345, 4346 | 4302, 4304-4306, 4309-4311, 4313-4315, 4317, 4319, 4323, 4329-4331, 4345, 4346 |
| D | 4301-4306, 4308-4312 | 4301, 4303, 4305 | 4301, 4303, 4305, 4310 | 4301, 4303, 4305, 4310, 4312 | 4301, 4303, 4305, 4312 | 4303, 4305 | 4303, 4305, 4312 |
| IC | 4301-4307, 4309, 4310 | 4302-4304 | 4302-4304, 4309 | 4302-4304, 4306, 4309 | 4302-4304, 4306 | 4302, 4304 | 4302, 4304 4306 |
| Q | 4301-4308, 4312-4314 | 4301, 4303-4305, 4308, 4313, 4314 | 4301, 4303-4305, 4307, 4308, 4312-4314 | | 4301, 4303, 4308, 4313, 4314 | 4301, 4303-4305, 4313, 4314 | |
| R | 4301-4345, 4348, 4349, 4351-4356, 4360-4362, 4369, 4373, 4374, 4384-4386, 4388, 4390, 4391 | 4302, 4305-4308, 4311-4313, 4316, 4317, 4319, 4320, 4325, 4326, 4328-4330, 4339, 4340, 4342-4345, 4362, 4374, 4384, 4388 | 4302, 4305-4308, 4311-4313, 4315-4317, 4319-4326, 4328-4330, 4337, 4339, 4342-4345, 4353-4356, 4360-4362, 4374, 4384-4386, 4388 | 4302, 4305-4308, 4311-4313, 4315-4317, 4319-4326, 4328-4332, 4337-4339, 4341-4345, 4353-4356, 4360-4362, 4374, 4384-4386, 4388 | 4302, 4305-4308, 4311-4313, 4316, 4317, 4319, 4320, 4325, 4326, 4328-4332, 4338, 4339-4341, 4343-4345, 4362, 4374, 4384, 4388 | 4302, 4305, 4306, 4311-4313, 4319, 4325, 4326, 4328-4330, 4339, 4340, 4342-4345, 4384, 4388 | 4302, 4305, 4306, 4311-4313, 4319, 4325, 4326, 4328-4332, 4338-4342, 4345, 4374, 4388 |


REG 8V
V+12V
V+8V_A ±2% 10
V+8V_A
R4301 0 1/10W
1SS352-TRB D4302
DCH1165- -T C4301 10/16
R4304 SS 10K
IC4301 VIN VC VO VADJ GND 1 2 3 4 5
PQ200WNA1ZPH-TLB
R4327 F SS 4.7K
C4303 10/16
R4333 F SS 1.5K
R4334 SS 820
GND
NO USE
V+12V
V+8V
Q4301 CPH6311-TLB
D D D D G S 1 2 3 4 5 6
R4312 SS ST 4.7K
C4306 YB ST 0.1/16
R4313 SS ST 4.7K
ST
C4309 YB ST 0.1/16
NO USE
V+12V
R4302 ST 0 1/10W
IC4302 CTL VCC N.C. GND OUT N.C. 1 2 3 4 5
BA80BC0WFP-TLB ST
V+8V_MPX
R4325 SS ST 10K
1SS352-TRB ST D4303
C4311 YB ST 1/16
C4304 105 ST 47/16 CEHVKW470M16-TRB
C4302 YB SS ST 0.01/16
GND


V+35V
Q4306 2SC4081(QR)-TLB
TP4317
V+31_5V
R4348 SS 4.7K
C4326 YF 0.1/50
D4309 D4308
UDZS24(B)-TRB
UDZS8R2(B)-TRB
R4349 SS 47K
GND
for XG, XC
V+5_1V_DA
XG, XC Q4304 RTQ040P02-TLB
D D D D G S 1 2 3 4 5 6
NO USE
C4305 YB SS ST 0.1/10
XG, XC Q4305
from POWER_2 [ DA_CONT 5-D2
RT1N241M-TLB
GND
C4319 YB SS XG, XC 0.1/10
R4342 SS XG, XC 10K
for ZG
V+5_1V
R4343 ZG 0 1/10W
R4344 ZG 0 1/10W
from IF_UCOM
[IF_UCOM[0:100]
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 4-C5
5-B3, 5-D1, 7-A3
10-A6, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
FAN VCC
V+12V
R4310 0 1/10W
DCH1165- -T C4340 10/16
TP4308
NO USE
R4388 SS ST 0
1SS352-TRB D4311
TP4321
FAN_VCC1] to BOARD_IF_1 2-C5
FAN_ON1 52
R4390 SS 3.3K
IC4310 VIN VC VO VADJ GND 1 2 3 4 5
PQ200WNA1ZPH-TLB
R4391 F SS 4.7K
C4339 10/16 DCH1165- -T
High: 9.5V +5.1%, -3.1%
Low: 7.1V +4.1%, -3.6%
REF:2.64V
R4351 F SS 1.8K
TP4314
FAN_CONT1 51
Q4302
RT1N241M-TLB
R4352 F SS 1K
GND
for FHD
FAN VCC
ZD, 0ZD, ZG V+12V
R4316 0 1/10W
1SS352-TRB D4301
ZD, 0ZD, ZG
TP4323
to BOARD_IF_1 FAN_VCC2 ] 2-C5
R4362 SS 10K ZD, 0ZD, ZG
ZD, 0ZD, ZG 2SA1602A(EF)-TLB
R4317 Q4308
E B C
FAN_CONT2 2
SS 100 ZD, 0ZD, ZG
C4328 YB SS 0.1/10 ZD, 0ZD, ZG
R4384 F SS 2.2K ZD, 0ZD, ZG
NO USE
R4306 SS ST 0
ZD, 0ZD, ZG IC4303
PQ200WNA1ZPH-TLB
VIN VC VO VADJ GND 1 2 3 4 5
R4307 F SS 5.1K ZD, 0ZD, ZG
C4307 ZD, 0ZD, ZG DCH1165- -T 10/16
REF:2.64V
ZD, 0ZD, ZG C4308 10/16 DCH1165- -T
R4308 SS 3.3K ZD, 0ZD, ZG
R4320 F 2.7K ZD, 0ZD, ZG
FAN_ON2 53
GND


Except for XGA Regu
(for XD, XG, XC, ~~ZD, 0ZD,~~ ZG)
XD, XG, XC, ZD, 0ZD, ZG
V+6_5V
V+5V_USB
R4322 D SS 56K
R4321 SS 22K
R4353 D SS 68K
Q4307 1/2
Q4307 2/2
HN1C01FU(YGR)-T
TP4324
TP4319
HN1C01FU(YGR)-T
E B C
Q4312 2SA1602A(EF)-TLB
R4385 SS 12K
R4354 D SS 120K
TP4325
R4356 SS 22K
R4355 D SS 120K
R4386 SS 22K
GND

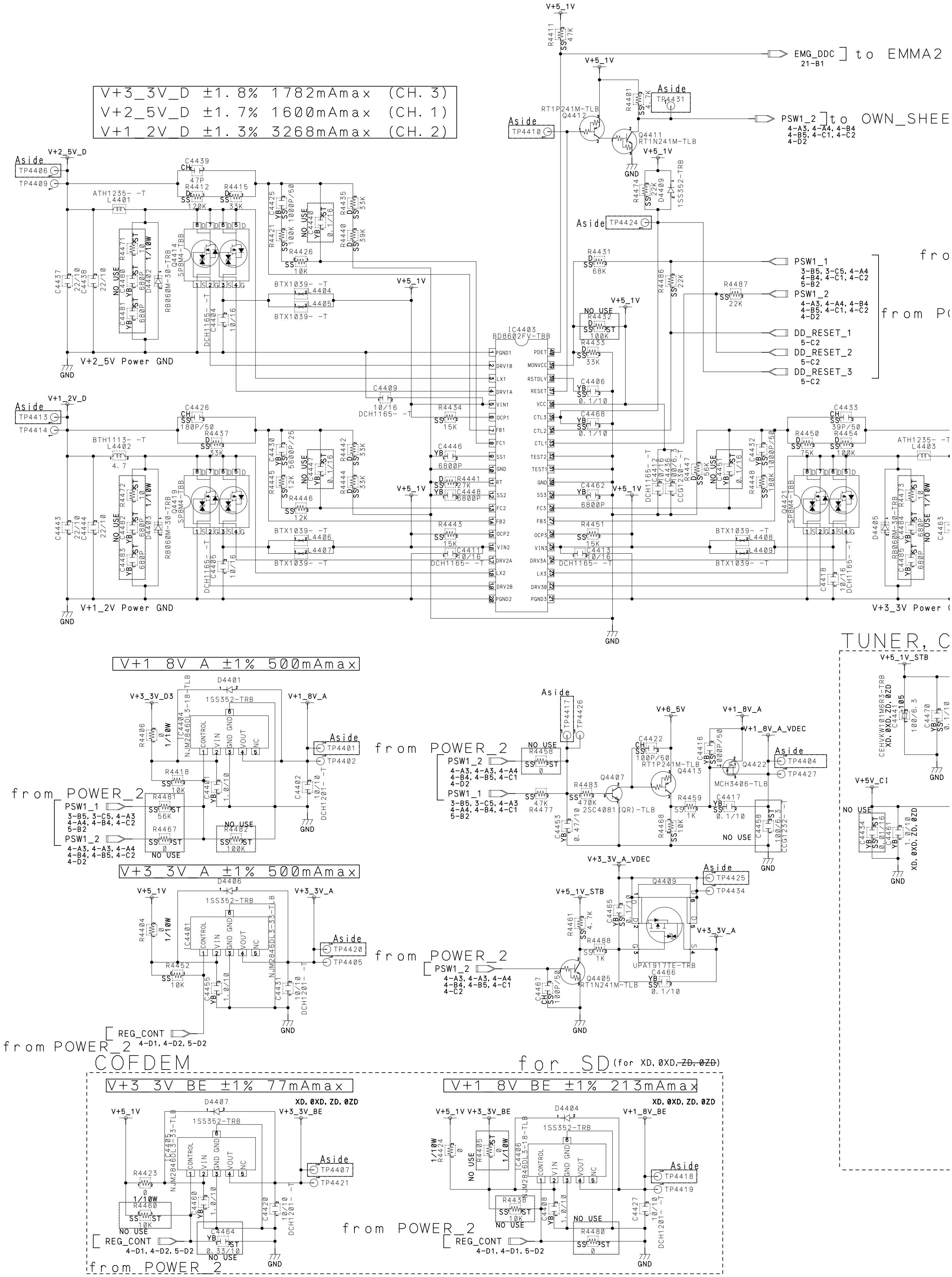
The ⚠ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.


REG 5V
V+5V ANT ±1% 370mAmax
V+6_5V_ANT
D4304
1SS352-TRB
IC4305
NJM2846DL3-05-TLB
CONTROL
VIN
GND
VOUT
NC
R4303
1/10W
R4318
10K
C4316
1.0/10
C4312
10/10
DCH1201- -T
V+5V_ANT
TP4304
TP4316
Aside
GND
NO USE
IC4304
MM1565AF-TFB
CONT
SUB
CN
NC
VO
R4305
R4319
1K
C4315
470P/50
C4317
1/16
D4305
1SS352-TRB
C4313
C4314
0.1/10
TP4305
V+5V_MPX
V+5V_A
R4329
R4330
R4335
R4336
1/10W
NO USE
V+8V_A
TP4301
TP4315
R4327
4.7K
R4333
1.5K
R4334
820
C4303
10/16
DCH1165- -T
V+8V_A2
TP4302
Q4301
R4369
1/10W
C4309
0.1/16
V+5V_A ±1% 336mAmax
V+6_5V
D4306
1SS352-TRB
R4309
C4307
NJM2846DL3-05-TLB
C4318
10/10
DCH1201- -T
TP4320
TP4307
for XGA(XD,0XD,0XA,XG,XC)
XD,0XD,0XA,XG,XC
R4314
10K
R4328
RST4
125
ZD,0ZD,ZG
C4325
1.0/10
R4346
4.7K
from EMMA2
EMMA2[0:163]
1-A3,1-A4,1-C4
2-A1,2-A4,2-B5
4-C5,5-B1,8-C5
8-D2,10-A6,11-A1
11-C5,12-D3,13-B2
14-A1,15-A3,16-B1
17-B6,17-D2,19-D1
20-B6,20-C4,21-A2
21-B1
for FHD(ZD,ZG)
V+5V_A2 +1%,-1.2% 200mAmax
V+5V_A2
TP4303
TP4306
Q4313
RTQ040P02-TLB
C4329
0.1/10
R4374
4.7K
R4373
1/10W
TP4318
Q4314
RT1N241M-TLB
C4345
0.1/10
C4346
0.1/10
PSW1_1
3-C5,4-A3,4-A4
4-B4,4-C1,4-C2
5-B2
from POWER_2
V+8V_MPX
TP4309
TP4310
Except for XGA Regular
(for XD,XG,XC,~~ZD,0ZD,~~ZG)
V+5V USB ±3% 500mAmax
V+5V_USB
R4323
XD,XG,XC,ZD,0ZD,ZG
D4310
1SS352-TRB
IC4309
PQ200WNA1ZPH-TLB
VADJ
R4345
C4334
10/16
DCH1165- -T
R4324
TP4312
TP4322
R4360
12K
C4335
R4315
3.3K
R4337
R4361
1K
for SD
(for XD,0XD~~,ZD,0ZD~~)
V+5V CI ±1% 300mAmax
XD,0XD,ZD,0ZD
D4312
1SS352-TRB
IC4306
R4331
R4332
V+5V_CI
TP4311
TP4313
R4338
10K
C4331
R4341
100K
C4323
C4330
NO USE
Regular
V+3_3V_UCOM
R4340
0XD,0XA
to EMMA2
EMG_USB
21-B1

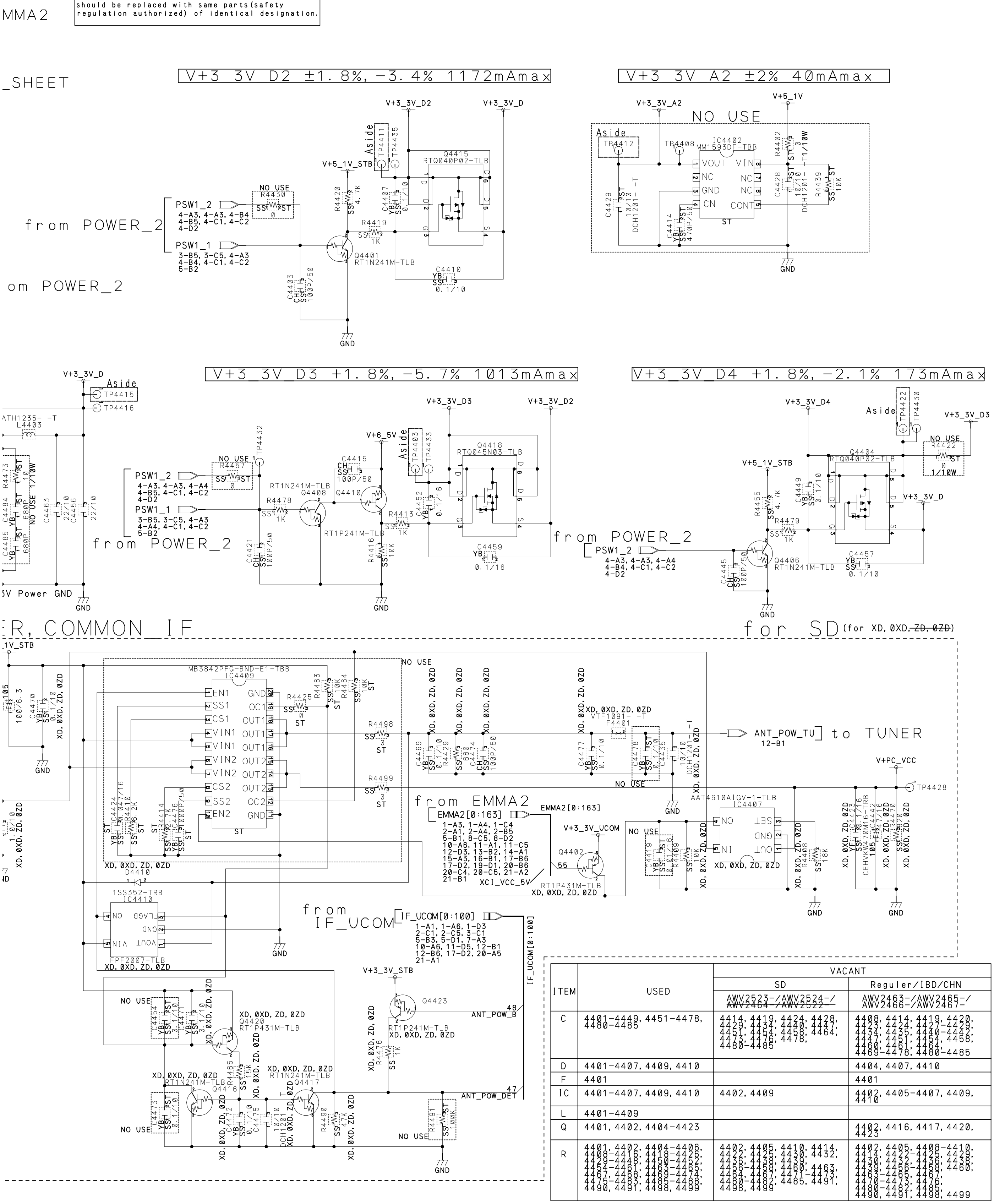
MAIN ASS'Y (EU/IBD/CHN) (03/22)
POWER_0 BLOCK

AWV2523- : AWV2524- :
AWV2463- : AWV2465- :
AWV2466- : AWV2467-

# 9.4 MAIN ASSY (4/20) [POWER 1 BLOCK]


V+3_3V_D ±1.8% 1782mAmax (CH.3)
V+2_5V_D ±1.7% 1600mAmax (CH.1)
V+1_2V_D ±1.3% 3268mAmax (CH.2)
V+5_1V
R4411 47K
EMG_DDC 21-B1
to EMMA2
PSW1_2
to OWN_SHEE
4-A3, 4-A4, 4-B4
4-B5, 4-C1, 4-C2
4-D2
Aside
TP4431
TP4410
RT1P241M-TLB
Q4412
Q4411
RT1N241M-TLB
R4401
GND
R4474 22K
D4409 1SS352-TRB
TP4424
V+2_5V_D
TP4406
TP4409
C4439 47P
R4412 120K
R4415 33K
ATH1235- -T
L4401
C4437
C4438 22/10
R4471
C4480 NO USE
C4481 680P
D4402
RB060M-30-TRB
Q4414 SP8M4-TBB
DCH1165- -T
C4404 10/16
C4425 1000P/50
R4421 100K
C4440 NO USE 0.1/16
R4426 10K
R4435 33K
R4440 39K
BTX1039- -T
L4404
L4405
V+2_5V Power GND
GND
R4431 68K
PSW1_1
3-B5, 3-C5, 4-A4
4-B4, 4-C1, 4-C2
5-B2
R4486 22K
R4487 22K
PSW1_2
from
from P
R4432 NO USE 100K
R4433 33K
DD_RESET_1 5-C2
DD_RESET_2 5-C2
DD_RESET_3 5-C2
IC4403
BD8602FV-TBB
PGND1 DRV1B LX1 DRV1A VIN1 OCP1 FB1 FC1 SS1 GND RT SS2 FC2 FB2 OCP2 VIN2 DRV2A LX2 DRV2B PGND2
PDET MONVCC RSTDLY RESET VCC CTL3 CTL2 CTL1 TEST2 TEST1 GND SS3 FC3 FB3 OCP3 VIN3 DRV3A LX3 DRV3B PGND3
C4406 0.1/10
C4468 0.1/10
C4409 10/16 DCH1165- -T
R4434 15K
C4446 6800P
R4441 27K
C4448 6800P
C4462 6800P
R4443 15K
C4411 10/16
R4451 15K
C4413 10/16
V+1_2V_D
TP4413
TP4414
C4426 180P/50
R4437 33K
BTH1113- -T
L4402 4.7
C4443
C4444 22/10
R4472
C4482 NO USE
C4483 680P
D4403
Q4419 SP8M4-TBB
C4405 10/16
C4430 5600P/25
R4445 12K
C4447 NO USE 0.1/16
R4446 12K
R4442 33K
R4444 33K
L4406
L4407
V+1_2V Power GND
C4412 10/16
C4476
CCG1230- -T
R4447 56K
C4451 NO USE 0.1/16
C4432 1000P/50
R4448 180K
C4433 39P/50
R4450 75K
R4454 100K
ATH1235- -T
L4403
Q4421 SP8M4-TBB
D4405
C4484 NO USE
C4485 680P
R4473
C4463
L4408
L4409
C4418 10/16
V+3_3V Power
TUNER, C
V+1_8V_A ±1% 500mAmax
D4401 1SS352-TRB
V+3_3V_D3
V+1_8V_A
IC4404 NJM2846DL3-18-TLB
CONTROL VIN GND GND VOUT NC
R4406 1/10W
TP4401
TP4402
R4418 10K
C4441 1.0/10
C4402 10/10 DCH1201- -T
from POWER_2
PSW1_1
R4448 56K
3-B5, 3-C5, 4-A3
4-A4, 4-B4, 4-C2
5-B2
R4467 0 NO USE
PSW1_2
4-A3, 4-A3, 4-A4
4-B4, 4-B5, 4-C2
4-D2
R4402 NO USE 100K
TP4417
TP4426
V+6_5V
V+1_8V_A_VDEC
R4458 NO USE 0
C4422 100P/50
RT1P241M-TLB
Q4413
C4416 1000P/50
Q4422
MCH3406-TLB
TP4404
TP4427
R4483 470K
Q4407
2SC4081(QR)-TLB
R4477 47K
R4459 1K
C4417 0.1/10
C4453 0.47/10
R4468 10K
C4458 NO USE 100/6.3
CCG1232- -T
V+1_5V_STB
CEHVKW101M6R3-TRB
C4441 100/6.3
XD, 0XD, ZD, 0ZD
C4470 0.1/10
V+5V_CI
C4434 NO USE 0.01/16
C4461 1.0/10
V+3_3V_A ±1% 500mAmax
D4406 1SS352-TRB
V+5_1V
V+3_3V_A
IC4401 NJM2846DL3-33-TLB
R4404 1/10W
TP4420
TP4405
R4452 10K
C4455 1.0/10
C4431 10/10 DCH1201- -T
REG_CONT 4-D1, 4-D2, 5-D2
V+3_3V_A_VDEC
TP4425
TP4434
Q4409
UPA1917TE-TRB
V+5_1V_STB
R4461 4.7K
C4465 0.1/10
R4488 1K
V+3_3V_A
Q4405 RT1N241M-TLB
C4467 100P/50
C4466 0.1/10
COFDEM
for SD (for XD, 0XD, ~~ZD, 0ZD~~)
V+3_3V_BE ±1% 77mAmax
D4407 1SS352-TRB
V+3_3V_BE
IC4405 NJM2846DL3-33-TLB
TP4407
TP4421
R4423 0
R4460 1/10W 10K NO USE
C4460 1.0/10
C4464 0.33/10 NO USE
C4420 10/10 DCH1201- -T
V+1_8V_BE ±1% 213mAmax
D4404 1SS352-TRB
V+5_1V V+3_3V_BE
V+1_8V_BE
R4424 1/10W
R4405 NO USE 1/10W
IC4406 NJM2846DL3-18-TLB
TP4418
TP4419
R4438 10K NO USE
C4408 1.0/10
R4480 NO USE 0
C4427 10/10 DCH1201- -T

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.



MMA2
_SHEET
V+3_3V_D2 ±1.8%, -3.4% 1172mAmax
V+3_3V_A2 ±2% 40mAmax
V+3_3V_D2
V+3_3V_D
V+3_3V_A2
V+5_1V
NO USE
Aside
TP4411
TP4435
TP4412
TP4408
IC4402
MM1593DF-TBB
VOUT VIN
NC NC
GND NC
CN CONT
R4402
C4428
R4439
C4429
C4414
V+5_1V_STB
Q4415
RTQ040P02-TLB
R4420
C4407
R4419
R4430
PSW1_2
PSW1_1
from POWER_2
4-A3, 4-A3, 4-B4
4-B5, 4-C1, 4-C2
4-D2
3-B5, 3-C5, 4-A3
4-B4, 4-C1, 4-C2
5-B2
Q4401
RT1N241M-TLB
C4403
C4410
GND
om POWER_2
V+3_3V_D3 +1.8%, -5.7% 1013mAmax
V+3_3V_D4 +1.8%, -2.1% 173mAmax
V+3_3V_D
TP4415
TP4416
ATH1235- -T
L4403
R4473
R4484
C4463
C4456
C4485
3V Power GND
TP4432
V+6_5V
TP4403
TP4433
C4415
Q4418
RTQ045N03-TLB
R4457
RT1N241M-TLB
Q4408
Q4410
R4478
RT1P241M-TLB
C4452
R4413
R4416
C4421
C4459
V+3_3V_D4
TP4422
TP4430
V+3_3V_D3
Q4404
RTQ040P02-TLB
R4422
C4449
R4455
R4479
Q4406
C4445
C4457
R, COMMON_IF
for SD (for XD, 0XD, ~~ZD, 0ZD~~)
1V_STB
MB3842PFG-BND-E1-TBB
IC4409
EN1 GND
SS1 OC1
CS1 OUT1
VIN1 OUT1
VIN1 OUT1
VIN2 OUT2
VIN2 OUT2
CS2 OUT2
SS2 OC2
EN2 GND
R4425
R4463
R4464
R4498
R4499
C4469
R4429
C4474
C4477
VTF1091- -T
F4401
C4478
C4435
ANT_POW_TU
12-B1
to TUNER
V+PC_VCC
TP4428
AAT4610AIGV-1-TLB
IC4407
NO SET
GND
IN OUT
C4419
R4409
R4408
C4423
C4442
R4470
from EMMA2
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
5-B1, 8-C5, 8-D2
10-A6, 11-A1, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
XC1_VCC_5V
V+3_3V_UCOM
Q4402
RT1P431M-TLB
XD, 0XD, ZD, 0ZD
C4424
R4410
C4414
C4476
D4410
1SS352-TRB
IC4410
FPF2007-TLB
FLAGB ON
GND
VOUT VIN
from IF_UCOM
IF_UCOM[0:100]
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
5-B3, 5-D1, 7-A3
10-A6, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
V+3_3V_STB
Q4423
RT1P241M-TLB
R4476
ANT_POW_B
ANT_POW_DET
C4454
C4471
Q4420
RT1P431M-TLB
R4465
RT1N241M-TLB
Q4416
Q4417
C4473
C4472
C4475
R4490
R4491

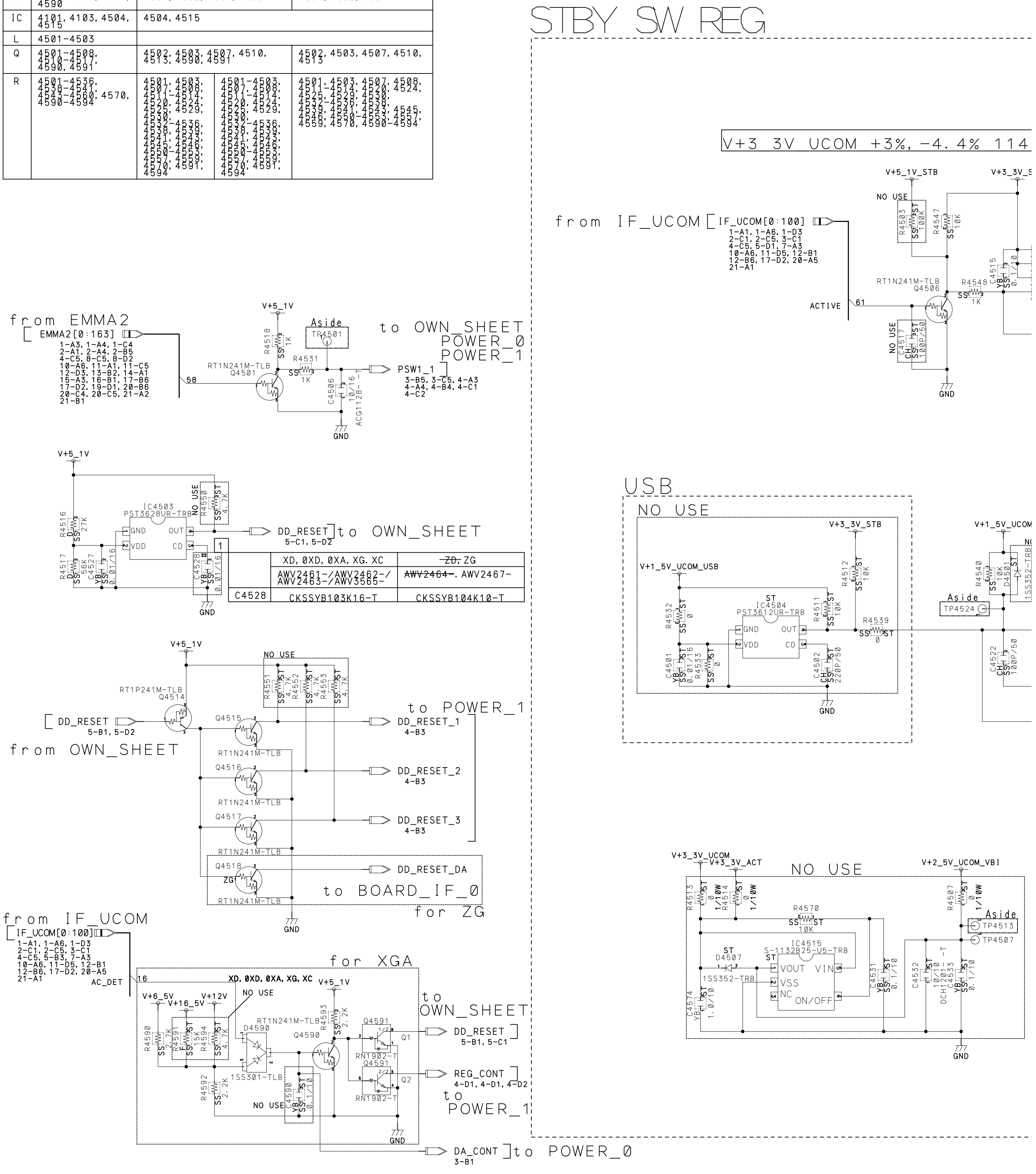
| ITEM | USED | VACANT | |
|---|---|---|---|
| | | SD | Reguler/IBD/CHN |
| | | AWV2523-/AWV2524-/<br>~~AWV2464-/AWV2522-~~ | AWV2463-/AWV2465-/<br>AWV2466-/AWV2467- |
| C | 4401-4449, 4451-4478, 4480-4485 | 4414, 4419, 4424, 4428, 4429, 4434, 4440, 4447, 4451, 4454, 4458, 4464, 4473, 4476, 4478, 4480-4485 | 4408, 4414, 4419, 4420, 4423, 4424, 4427-4429, 4434, 4435, 4440-4442, 4447, 4451, 4454, 4458, 4460, 4461, 4464, 4469-4478, 4480-4485 |
| D | 4401-4407, 4409, 4410 | | 4404, 4407, 4410 |
| F | 4401 | | 4401 |
| IC | 4401-4407, 4409, 4410 | 4402, 4409 | 4402, 4405-4407, 4409, 4410 |
| L | 4401-4409 | | |
| Q | 4401, 4402, 4404-4423 | | 4402, 4416, 4417, 4420, 4423 |
| R | 4401, 4402, 4404-4406, 4408-4416, 4418-4426, 4429-4448, 4450-4452, 4454-4461, 4463-4465, 4467, 4468, 4469-4474, 4475-4483, 4485-4488, 4490, 4491, 4498, 4499 | 4402, 4405, 4410, 4414, 4422, 4425, 4430, 4432, 4436, 4438, 4439, 4456-4458, 4460, 4463, 4464, 4467, 4471-4473, 4480-4482, 4485, 4491, 4498, 4499 | 4402, 4405, 4408-4410, 4414, 4422-4425, 4429, 4430, 4432, 4436, 4438, 4439, 4456-4458, 4460, 4463-4465, 4467, 4470-4473, 4476, 4480-4482, 4485, 4490, 4491, 4498, 4499 |

MAIN ASS'Y (EU/IBD/CHN) (04/22)
POWER_1 BLOCK

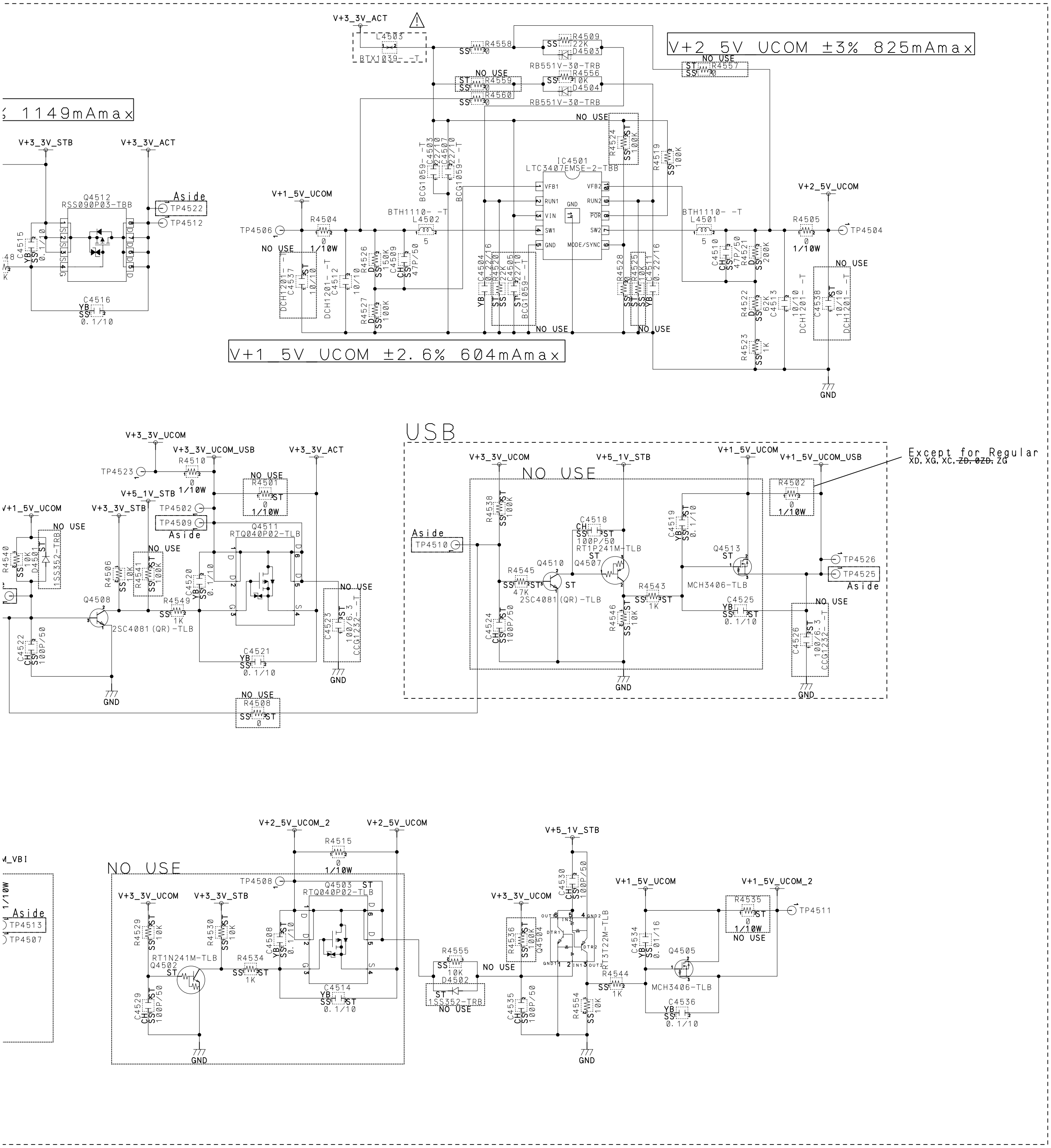
AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

# 9.5 MAIN ASSY (5/20) [POWER 2 BLOCK]

| ITEM | USED | VACANT | | |
|---|---|---|---|---|
| | | XGA | | FHD |
| | | | Reguler | |
| | | AWV2523-/<br>AWV2465-/<br>AWV2466- | AWV2524-/<br>AWV2463- | ~~AWV2464-~~/AWV2522-<br>AWV2467- |
| C | 4501-4538, 4574,<br>4590 | 4501, 4502, 4505, 4508, 4514, 4517-4519, 4523-4526,<br>4529, 4531-4533, 4537, 4538, 4574, 4590 | | |
| D | 4501-4504, 4507,<br>4590 | 4501, 4502, 4507, 4590 | | 4501, 4502, 4507 |
| IC | 4101, 4103, 4504,<br>4515 | 4504, 4515 | | |
| L | 4501-4503 | | | |
| Q | 4501-4508,<br>4510-4517,<br>4590, 4591 | 4502, 4503, 4507, 4510,<br>4513, 4590, 4591 | | 4502, 4503, 4507, 4510,<br>4513 |
| R | 4501-4536,<br>4538-4541,<br>4543-4560, 4570,<br>4590-4594 | 4501, 4503,<br>4507, 4508,<br>4511-4514,<br>4520, 4524,<br>4525, 4529,<br>4530,<br>4532-4536,<br>4538, 4539,<br>4541, 4543,<br>4545, 4546,<br>4550-4553,<br>4557, 4559,<br>4570, 4591,<br>4594 | 4501-4503,<br>4507, 4508,<br>4511-4514,<br>4520, 4524,<br>4525, 4529,<br>4530,<br>4532-4536,<br>4538, 4539,<br>4541, 4543,<br>4545, 4546,<br>4550-4553,<br>4557, 4559,<br>4570, 4591,<br>4594 | 4501, 4503, 4507, 4508,<br>4511-4514, 4520, 4524,<br>4525, 4529, 4530,<br>4532-4536, 4538,<br>4539, 4541, 4543, 4545,<br>4546, 4550-4553, 4557,<br>4559, 4570, 4590-4594 |


STBY SW REG
V+3 3V UCOM +3%, -4.4% 114
from IF_UCOM
IF_UCOM[0:100]
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
4-C5, 5-D1, 7-A3
10-A6, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
ACTIVE
61
V+5_1V_STB
V+3_3V_S
NO USE
R4503
SS
ST
100K
R4547
SS
10K
RT1N241M-TLB
Q4506
R4548
SS
1K
C4515
YB
SS
0.1/10
NO USE
C4517
CH
SS
ST
100P/50
GND
from EMMA2
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 8-C5, 8-D2
10-A6, 11-A1, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
58
V+5_1V
R4518
SS
1K
Aside
TP4501
RT1N241M-TLB
Q4501
R4531
SS
1K
C4506
10/16
ACG1128-T
GND
to OWN_SHEET
POWER_0
POWER_1
PSW1_1
3-B5, 3-C5, 4-A3
4-A4, 4-B4, 4-C1
4-C2
V+5_1V
R4516
D
SS
27K
IC4503
PST3628UR-TRB
GND
VDD
OUT
CD
NO USE
R4550
SS
ST
4.7K
R4517
D
SS
56K
C4527
YB
SS
0.01/16
C4528
YB
SS
#
0.01/16
GND
DD_RESET
5-C1, 5-D2
to OWN_SHEET
1
XD, 0XD, 0XA, XG. XC
~~ZD,~~ ZG
AWV2461-/AWV2462-/
AWV2463-/AWV3565-
~~AWV2464-~~. AWV2467-
C4528
CKSSYB103K16-T
CKSSYB104K10-T
V+5_1V
NO USE
R4551
SS
ST
4.7K
R4552
SS
ST
4.7K
R4553
SS
ST
4.7K
RT1P241M-TLB
Q4514
DD_RESET
5-B1, 5-D2
from OWN_SHEET
Q4515
RT1N241M-TLB
Q4516
RT1N241M-TLB
Q4517
RT1N241M-TLB
Q4518
ZG
RT1N241M-TLB
to POWER_1
DD_RESET_1
4-B3
DD_RESET_2
4-B3
DD_RESET_3
4-B3
DD_RESET_DA
to BOARD_IF_0
for ZG
GND
from IF_UCOM
IF_UCOM[0:100]
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
4-C5, 5-B3, 7-A3
10-A6, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
AC_DET
for XGA
16
XD, 0XD, 0XA, XG, XC
V+6_5V
V+16_5V
V+12V
NO USE
R4590
SS
2.7K
R4591
F
SS
ST
15K
R4594
SS
ST
4.7K
RT1N241M-TLB
D4590
1SS301-TLB
Q4590
V+5_1V
R4593
SS
2.2K
R4592
SS
2.2K
NO USE
C4590
YB
SS
ST
0.1/10
Q4591
1/2
Q1
RN1902-T
Q4591
2/2
Q2
RN1902-T
GND
to OWN_SHEET
DD_RESET
5-B1, 5-C1
REG_CONT
4-D1, 4-D1, 4-D2
to POWER_1
DA_CONT
3-B1
to POWER_0
USB
NO USE
V+3_3V_STB
V+1_5V_UCOM_USB
R4512
SS
ST
10K
R4532
SS
ST
0
ST
IC4504
PST3612UR-TRB
GND
VDD
OUT
CD
R4511
SS
ST
10K
R4539
SS
ST
0
C4501
YB
SS
ST
0.01/16
R4533
SS
ST
0
C4502
CH
SS
ST
220P/50
GND
V+1_5V_UCOM
R4540
SS
10K
D4501
ST
1SS352-TRB
Aside
TP4524
C4522
CH
SS
100P/50
V+3_3V_UCOM
V+3_3V_ACT
NO USE
V+2_5V_UCOM_VBI
R4513
ST
0
1/10W
R4514
ST
0
1/10W
R4570
SS
ST
10K
R4507
ST
0
1/10W
Aside
TP4513
TP4507
ST
D4507
1SS352-TRB
ST
IC4515
S-1132B25-U5-TRB
VOUT
VIN
VSS
NC
ON/OFF
C4531
YB
SS
ST
0.1/10
C4532
ST
10/10
DCH1201-T
C4533
YB
SS
ST
0.1/10
C4574
YB
ST
1.0/10
GND

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

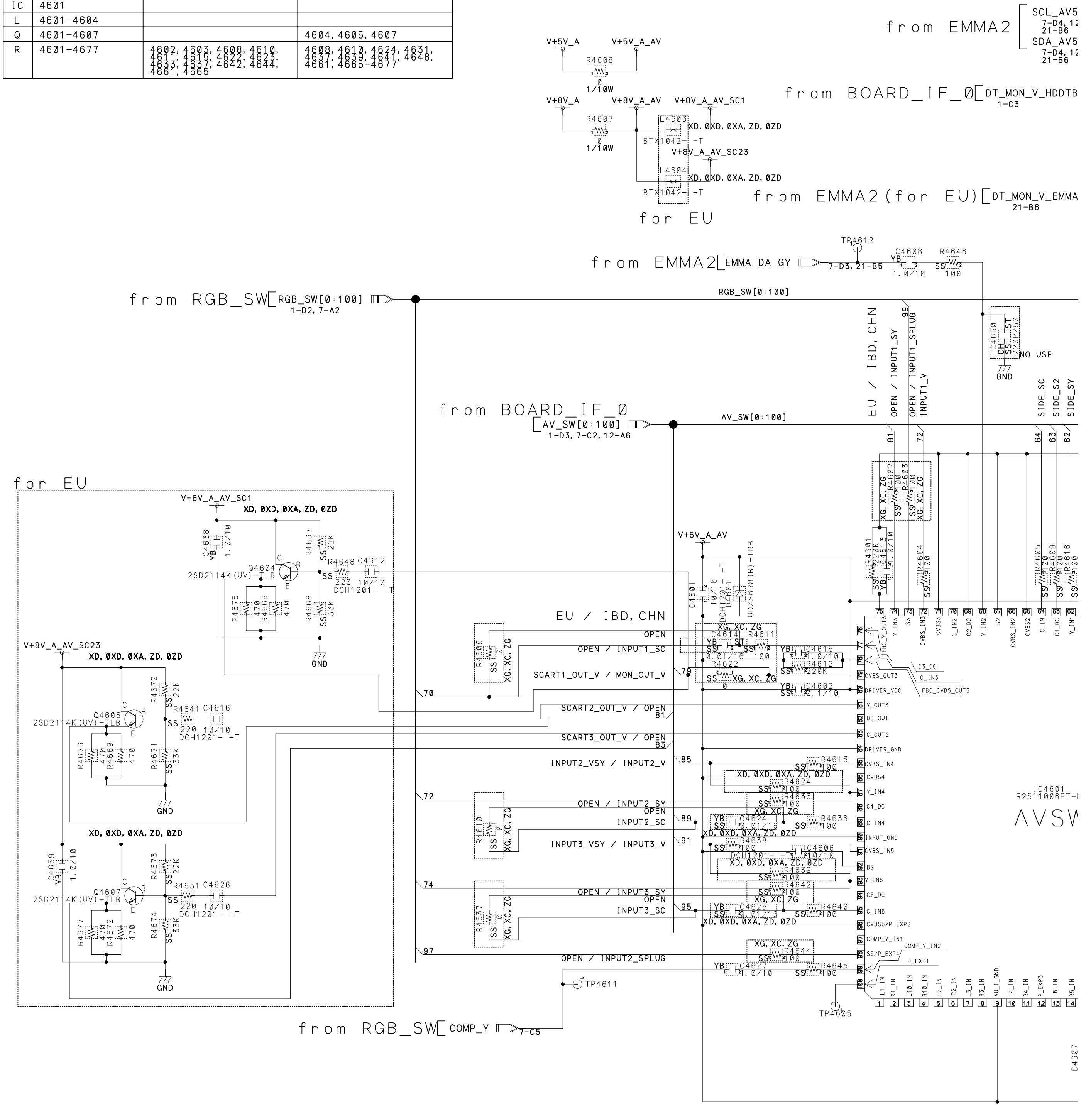

V+3_3V_ACT
L4503
BTX1039- -T
R4558
R4509
22K
D4503
RB551V-30-TRB
V+2 5V UCOM ±3% 825mAmax
NO USE
R4557
R4559
R4556
10K
D4504
R4560
NO USE
R4524
100K
IC4501
LTC3407EMSE-2-TBB
VFB1
RUN1
VIN
SW1
GND
VFB2
RUN2
POR
SW2
MODE/SYNC
BCG1059- -T
C4503
C4507
22/10
R4519
100K
1149mAmax
V+3_3V_STB
V+3_3V_ACT
Q4512
RSS090P03-TBB
Aside
TP4522
TP4512
C4515
0.1/10
C4516
0.1/10
V+1_5V_UCOM
TP4506
R4504
0
1/10W
NO USE
DCH1201- -T
C4537
10/10
C4512
R4526
150K
C4509
47P/50
BTH1110- -T
L4502
5
R4527
100K
C4504
C4505
C4506
R4520
22K
R4528
R4525
C4511
0.22/16
NO USE
V+1 5V UCOM ±2.6% 604mAmax
V+2_5V_UCOM
BTH1110- -T
L4501
5
C4510
47P/50
R4521
200K
R4505
0
1/10W
TP4504
NO USE
C4538
DCH1201- -T
R4522
62K
C4513
10/10
R4523
1K
GND
V+3_3V_UCOM
V+3_3V_UCOM_USB
V+3_3V_ACT
TP4523
R4510
0
1/10W
NO USE
R4501
0
1/10W
V+5_1V_STB
TP4502
TP4509
Aside
Q4511
RTQ040P02-TLB
V+1_5V_UCOM
V+3_3V_STB
NO USE
R4540
10K
D4501
1SS352-TRB
R4506
R4541
10K
100K
C4520
0.1/10
R4549
1K
Q4508
2SC4081(QR)-TLB
C4522
100P/50
C4521
0.1/10
NO USE
C4523
100/6.3
CCG1232- -T
GND
NO USE
R4508
0
USB
V+3_3V_UCOM
V+5_1V_STB
V+1_5V_UCOM
V+1_5V_UCOM_USB
Except for Regular
XD, XG, XC, ~~ZD, ØZD,~~ ZG
NO USE
R4538
100K
C4518
100P/50
RT1P241M-TLB
Q4507
R4502
0
1/10W
C4519
0.1/10
Q4513
MCH3406-TLB
Aside
TP4510
R4545
47K
Q4510
2SC4081(QR)-TLB
R4543
1K
TP4526
TP4525
Aside
C4524
100P/50
R4546
10K
C4525
0.1/10
NO USE
C4526
100/6.3
CCG1232- -T
GND
V+2_5V_UCOM_2
V+2_5V_UCOM
R4515
0
1/10W
M_VBI
1/10W
Aside
TP4513
TP4507
NO USE
TP4508
Q4503
RTQ040P02-TLB
V+3_3V_UCOM
V+3_3V_STB
R4529
10K
R4530
10K
C4508
0.1/10
RT1N241M-TLB
Q4502
R4534
1K
C4529
100P/50
C4514
0.1/10
R4555
10K
D4502
1SS352-TRB
NO USE
V+5_1V_STB
C4530
100P/50
V+3_3V_UCOM
R4536
100K
Q4504
RT3T22M-TLB
R4544
1K
C4535
100P/50
R4554
10K
V+1_5V_UCOM
C4534
0.01/16
Q4505
MCH3406-TLB
C4536
0.1/10
V+1_5V_UCOM_2
R4535
0
1/10W
NO USE
TP4511
GND

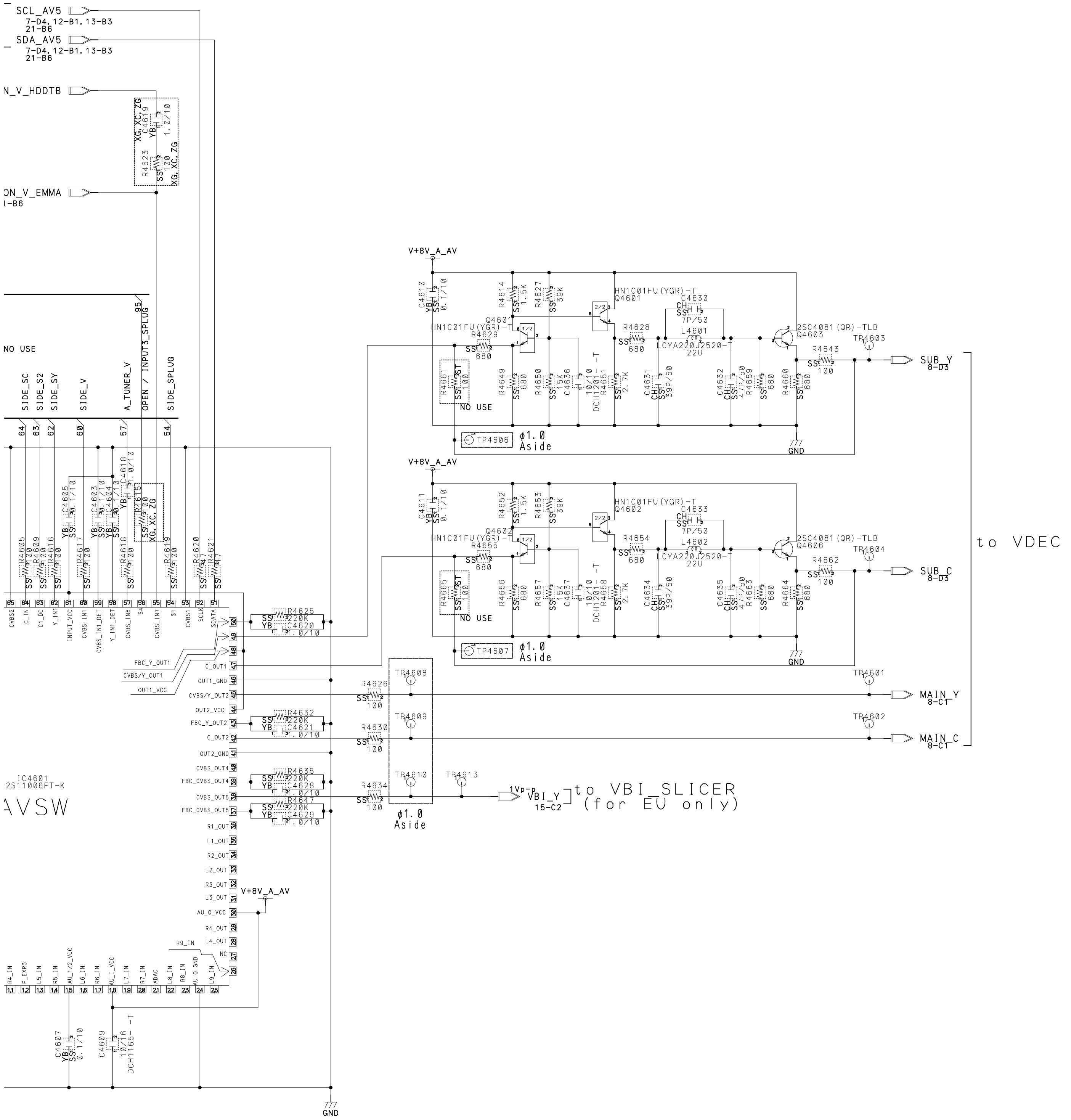
MAIN ASS'Y (EU/IBD/CHN) (05/22)
POWER_2 BLOCK

AWV2523- : AWV2524- :
AWV2463- : AWV2465- :
AWV2466- : AWV2467-

# 9.6 MAIN ASSY (6/20) [AV SW BLOCK]

| ITEM | USED | VACANT | |
|---|---|---|---|
| | | EU | IBD/CHN |
| | | AWV2523-/AWV2524-/<br>AWV2463-/~~AWV2464-/~~<br>~~AWV2522-~~ | AWV2465-/AWV2466-/<br>AWV2467- |
| C | 4601-4639, 4650 | 4614, 4617, 4619, 4622, 4623, 4650 | 4612, 4616, 4617, 4622, 4623, 4626, 4638, 4639, 4650 |
| D | 4601 | | |
| IC | 4601 | | |
| L | 4601-4604 | | |
| Q | 4601-4607 | | 4604, 4605, 4607 |
| R | 4601-4677 | 4602, 4603, 4608, 4610, 4611, 4615, 4622, 4623, 4633, 4637, 4642, 4644, 4661, 4665 | 4608, 4610, 4624, 4631, 4637, 4639, 4641, 4648, 4661, 4665-4677 |

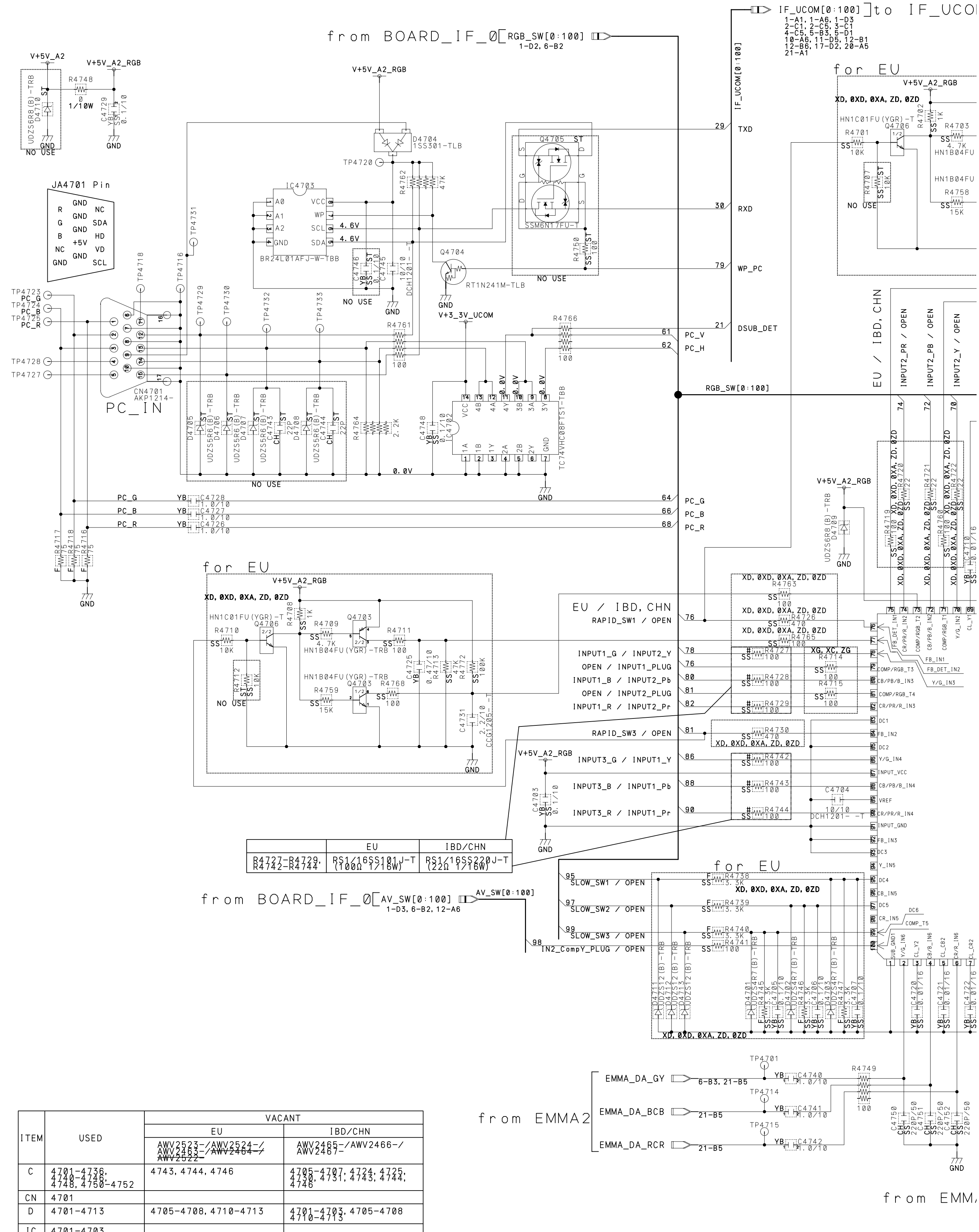

from EMMA2
SCL_AV5
7-D4, 12
21-B6
SDA_AV5
7-D4, 12
21-B6
V+5V_A
V+5V_A_AV
R4606
0
1/10W
V+8V_A
V+8V_A_AV
V+8V_A_AV_SC1
R4607
0
1/10W
L4603
XD, 0XD, 0XA, ZD, 0ZD
BTX1042- -T
V+8V_A_AV_SC23
L4604
XD, 0XD, 0XA, ZD, 0ZD
BTX1042- -T
for EU
from BOARD_IF_0
DT_MON_V_HDDTB
1-C3
from EMMA2 (for EU)
DT_MON_V_EMMA
21-B6
TP4612
from EMMA2
EMMA_DA_GY
7-D3, 21-B5
C4608
YB
1.0/10
R4646
SS
100
from RGB_SW
RGB_SW[0:100]
1-D2, 7-A2
RGB_SW[0:100]
EU / IBD, CHN
OPEN / INPUT1_SY
OPEN / INPUT1_SPLUG
INPUT1_V
99
C4650
CH
SS
ST
220P/50
NO USE
GND
SIDE_SC
SIDE_S2
SIDE_SY
from BOARD_IF_0
AV_SW[0:100]
1-D3, 7-C2, 12-A6
AV_SW[0:100]
81
72
64
63
62
XG, XC, ZG
R4602
100
R4603
100
XG, XC, ZG
R4601
220K
C4613
1.0/10
R4604
100
R4605
100
R4609
100
R4616
100
for EU
V+8V_A_AV_SC1
XD, 0XD, 0XA, ZD, 0ZD
C4638
YB
1.0/10
R4667
22K
Q4604
2SD2114K(UV)-TLB
R4648
220
C4612
10/10
DCH1201- -T
R4675
470
R4666
470
R4668
33K
GND
V+8V_A_AV_SC23
XD, 0XD, 0XA, ZD, 0ZD
R4670
22K
Q4605
2SD2114K(UV)-TLB
R4641
220
C4616
10/10
DCH1201- -T
R4676
470
R4669
470
R4671
33K
GND
XD, 0XD, 0XA, ZD, 0ZD
C4639
YB
1.0/10
R4673
22K
Q4607
2SD2114K(UV)-TLB
R4631
220
C4626
10/10
DCH1201- -T
R4677
470
R4672
470
R4674
33K
GND
V+5V_A_AV
C4601
10/10
DCH1201- -T
D4601
UDZS6R8(B)-TRB
EU / IBD, CHN
OPEN
OPEN / INPUT1_SC
SCART1_OUT_V / MON_OUT_V
70
79
R4608
0
XG, XC, ZG
SCART2_OUT_V / OPEN
81
SCART3_OUT_V / OPEN
83
INPUT2_VSY / INPUT2_V
85
72
OPEN / INPUT2_SY
OPEN
INPUT2_SC
89
R4610
0
XG, XC, ZG
INPUT3_VSY / INPUT3_V
91
74
OPEN / INPUT3_SY
OPEN
INPUT3_SC
95
R4637
0
XG, XC, ZG
97
OPEN / INPUT2_SPLUG
TP4611
from RGB_SW
COMP_Y
7-C5
XG, XC, ZG
C4614
YB
SS
ST
0.01/16
R4611
100
R4622
0
C4615
1.0/10
R4612
220K
C4602
0.1/10
R4613
100
XD, 0XD, 0XA, ZD, 0ZD
R4624
100
R4633
100
XG, XC, ZG
C4624
0.01/16
R4636
100
XD, 0XD, 0XA, ZD, 0ZD
R4638
100
C4606
DCH1201- -T
10/10
XD, 0XD, 0XA, ZD, 0ZD
R4639
100
R4642
100
XG, XC, ZG
C4625
0.01/16
R4640
100
XD, 0XD, 0XA, ZD, 0ZD
XG, XC, ZG
R4644
100
C4627
1.0/10
R4645
100
TP4605
75 FBC_Y_OUT3
74 Y_IN3
73 S3
72 CVBS_IN3
71 CVBS3
70 C_IN2
69 C2_DC
68 Y_IN2
67 S2
66 CVBS_IN2
65 CVBS2
64 C_IN
63 C1_DC
62 Y_IN1
76
77
78
C3_DC
C_IN3
FBC_CVBS_OUT3
79 CVBS_OUT3
80 DRIVER_VCC
81 Y_OUT3
82 DC_OUT
83 C_OUT3
84 DRIVER_GND
85 CVBS_IN4
86 CVBS4
87 Y_IN4
88 C4_DC
89 C_IN4
90 INPUT_GND
91 CVBS_IN5
92 BG
93 Y_IN5
94 C5_DC
95 C_IN5
96 CVBS5/P_EXP2
97 COMP_Y_IN1
98 S5/P_EXP4
99
100
COMP_Y_IN2
P_EXP1
1 L1_IN
2 R1_IN
3 L10_IN
4 R10_IN
5 L2_IN
6 R2_IN
7 L3_IN
8 R3_IN
9 AU_I_GND
10 L4_IN
11 R4_IN
12 P_EXP3
13 L5_IN
14 R5_IN
IC4601
R2S11006FT-
AVSW
C4607


SCL_AV5
7-D4,12-B1,13-B3
21-B6
SDA_AV5
7-D4,12-B1,13-B3
21-B6
N_V_HDDTB
ON_V_EMMA
R4623 SS 100
C4619 YB 1.0/10
XG,XC,ZG
NO USE
SIDE_SC
SIDE_S2
SIDE_SY
SIDE_V
A_TUNER_V
OPEN / INPUT3_SPLUG
SIDE_SPLUG
95
64 63 62 60 57 54
R4605 R4609 R4616 R4617 R4618 R4615 R4619 R4620 R4621
C4605 C4603 C4604 C4618
IC4601
2S11006FT-K
AVSW
CVBS2 C_IN C1_DC V_IN1 INPUT_VCC CVBS_IN1 CVBS_IN1_DET Y_IN1_DET CVBS_IN6 S4 CVBS_IN7 S1 CVBS1 SCLK SDATA
FBC_Y_OUT1
CVBS/Y_OUT1
OUT1_VCC
C_OUT1
OUT1_GND
CVBS/Y_OUT2
OUT2_VCC
FBC_Y_OUT2
C_OUT2
OUT2_GND
CVBS_OUT4
FBC_CVBS_OUT4
CVBS_OUT5
FBC_CVBS_OUT5
R1_OUT L1_OUT R2_OUT L2_OUT R3_OUT L3_OUT AU_O_VCC R4_OUT L4_OUT NC L9_IN
R9_IN
R4_IN P_EXP3 L5_IN R5_IN AU_1/2_VCC L6_IN R6_IN AU_I_VCC L7_IN R7_IN ADAC L8_IN R8_IN AU_O_GND
R4625 220K C4620 1.0/10
R4632 220K C4621 1.0/10
R4635 220K C4628 1.0/10
R4647 220K C4629 1.0/10
R4626 100
R4630 100
R4634 100
TP4608 TP4609 TP4610 TP4613
φ1.0 Aside
1Vp-p
VBI_Y
15-C2
to VBI_SLICER
(for EU only)
V+8V_A_AV
C4607 YB 0.1/10
C4609 10/16 DCH1165 -T
GND
C4610 0.1/10
R4614 1.5K
R4627 39K
HN1C01FU(YGR)-T Q4601
C4630 7P/50
Q4601 HN1C01FU(YGR)-T
R4629 680
R4628 680
L4601 LCYA220J2520-T 22U
2SC4081(QR)-TLB Q4603
R4643 100
TP4603
SUB_Y 8-D3
R4661 ST 100
NO USE
R4649 680
R4650 15K
C4636 10/10
DCH1201 -T
R4651 2.7K
C4631 39P/50
C4632 47P/50
R4659 680
R4660 680
TP4606 φ1.0 Aside
C4611 0.1/10
R4652 1.5K
R4653 39K
HN1C01FU(YGR)-T Q4602
C4633 7P/50
Q4602 HN1C01FU(YGR)-T
R4655 680
R4654 680
L4602 LCYA220J2520-T 22U
2SC4081(QR)-TLB Q4606
R4662 100
TP4604
SUB_C 8-D3
R4665 ST 100
R4656 680
R4657 15K
C4637 10/10
R4658 2.7K
C4634 39P/50
C4635 47P/50
R4663 680
R4664 680
TP4607 φ1.0 Aside
TP4601
MAIN_Y 8-C1
TP4602
MAIN_C 8-C1
to VDEC

MAIN ASS'Y (EU/IBD/CHN) (06/22)
AV_SW BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

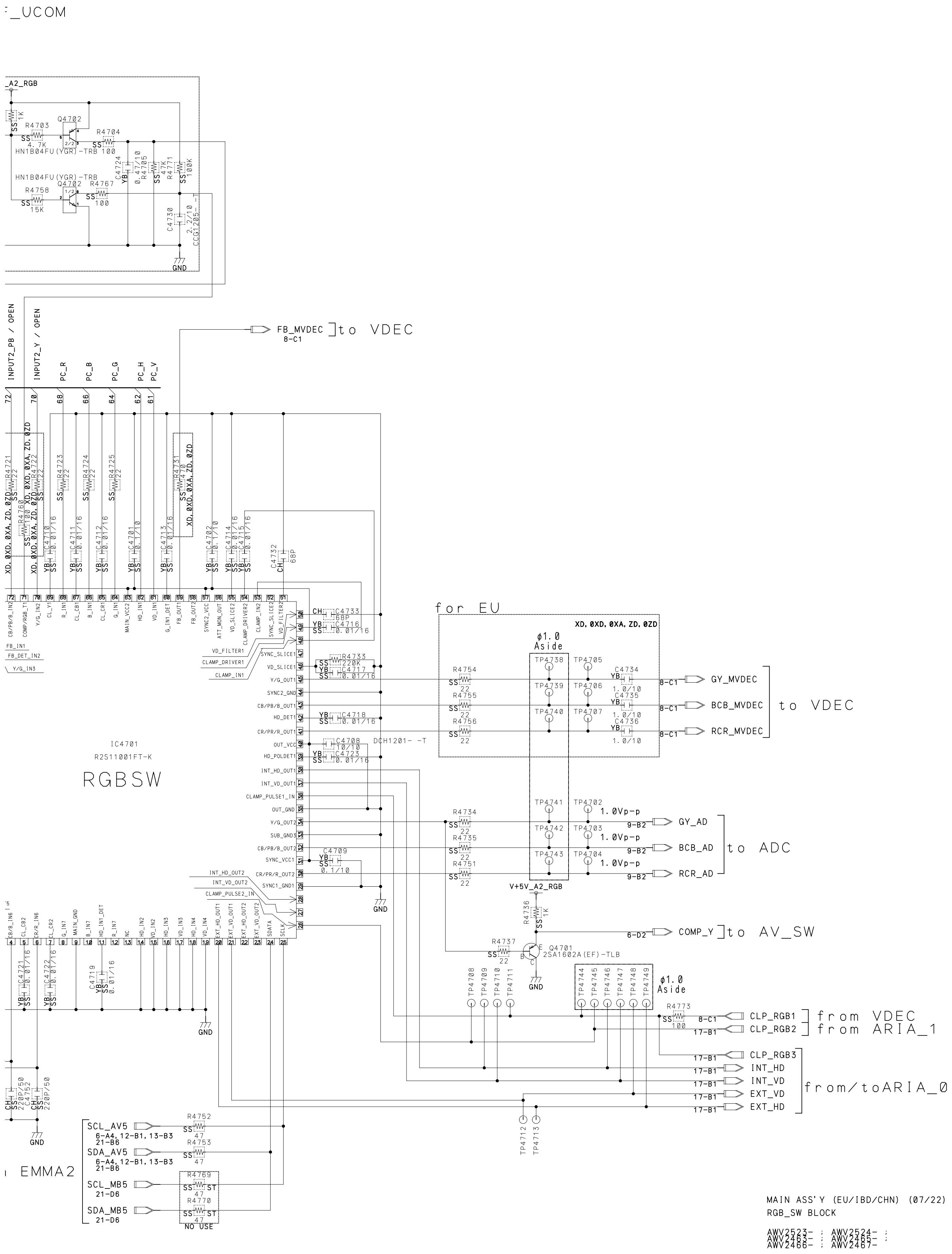
# 9.7 MAIN ASSY (7/20) [RGB SW BLOCK]



from BOARD_IF_0 RGB_SW[0:100] 1-D2, 6-B2
IF_UCOM[0:100] to IF_UCO
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
4-C5, 5-B3, 5-D1
10-A6, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
V+5V_A2
V+5V_A2_RGB
R4748 0 1/10W
C4729 YB 0.1/10
D4710 UDZS6R8(B)-TRB
NO USE
GND
JA4701 Pin
R G B NC GND
GND GND GND +5V GND
NC SDA HD VD SCL
D4704 1SS301-TLB
TP4720
IC4703 BR24L01AFJ-W-TBB
A0 A1 A2 GND VCC WP SCL SDA
4.6V
4.6V
R4762 47K
C4746 YB 0.1/10
C4745 10/10 DCH1201-
Q4704 RT1N241M-TLB
Q4705 SSM6N17FU-T
R4750 100
NO USE
TXD
RXD
WP_PC
DSUB_DET
PC_V
PC_H
PC_G
PC_B
PC_R
TP4723 TP4724 TP4725 TP4728 TP4727
TP4718 TP4716 TP4731 TP4729 TP4730 TP4732 TP4733
CN4701 AKP1214-
PC_IN
D4705 D4706 D4707 D4708 UDZS5R6(B)-TRB
C4743 C4744 22P
R4761 100
R4764 2.2K
V+3_3V_UCOM
R4766 100
C4748 YB 0.1/10
IC4702 TC74VHC08FTS1-TBB
0.0V
RGB_SW[0:100]
C4728 C4727 C4726 YB 1.0/10
R4717 R4718 R4716 75
for EU
XD, 0XD, 0XA, ZD, 0ZD
HN1C01FU(YGR)-T
Q4706 Q4703
R4710 10K
R4708 1K
R4709 4.7K
R4711 100
HN1B04FU(YGR)-TRB
R4712 10K
R4759 15K
R4768 100
C4725 0.47/10
R4713 47K
R4772 100K
C4731 2.2/10 CCG1205-
EU / IBD, CHN
RAPID_SW1 / OPEN
INPUT1_G / INPUT2_Y
OPEN / INPUT1_PLUG
INPUT1_B / INPUT2_Pb
OPEN / INPUT2_PLUG
INPUT1_R / INPUT2_Pr
RAPID_SW3 / OPEN
INPUT3_G / INPUT1_Y
INPUT3_B / INPUT1_Pb
INPUT3_R / INPUT1_Pr
R4763 100
R4726 470
R4765 100
R4727 R4728 R4729 100
XG, XC, ZG
R4714 100
R4715 100
R4730 470
R4742 R4743 R4744 100
C4703 YB 0.1/10
C4704 10/10 DCH1201-
from BOARD_IF_0 AV_SW[0:100] 1-D3, 6-B2, 12-A6
SLOW_SW1 / OPEN
SLOW_SW2 / OPEN
SLOW_SW3 / OPEN
IN2_CompY_PLUG / OPEN
R4738 R4739 R4740 3.3K
R4741 100
D4711 D4712 D4713 UDZS12(B)-TRB
D4701 D4702 D4703 UDZS4R7(B)-TRB
C4705 C4706 C4707
for EU
V+5V_A2_RGB
Q4706 R4701 10K R4702 1K R4703 4.7K
HN1B04FU
R4707 10K
R4758 15K
EU / IBD, CHN
INPUT2_PR / OPEN
INPUT2_PB / OPEN
INPUT2_Y / OPEN
R4719 R4720 R4721 R4760 R4722 22
D4709 UDZS6R8(B)-TRB
C4710 YB 0.01/16
FB_DET_IN1 CR/PR/R_IN2 COMP/RGB_T2 CB/PB/B_IN2 COMP/RGB_T1 Y/G_IN2 CL_Y1
FB_IN1 FB_DET_IN2 Y/G_IN3
COMP/RGB_T3 CB/PB/B_IN3 COMP/RGB_T4 CR/PR/R_IN3
DC1 FB_IN2 DC2 Y/G_IN4 INPUT_VCC CB/PB/B_IN4 VREF CR/PR/R_IN4 INPUT_GND FB_IN3 DC3 Y_IN5 DC4 CB_IN5 DC5 CR_IN5
DC6 COMP_T5
SUB_GND1 Y/G_IN6 CL_Y2 CB/B_IN6 CL_CB2 CR/R_IN6 CL_CR2
C4720 C4721 C4722 YB 0.01/16
TP4701 TP4714 TP4715
EMMA_DA_GY 6-B3, 21-B5
EMMA_DA_BCB 21-B5
EMMA_DA_RCR 21-B5
C4740 C4741 C4742 YB 1.0/10
R4749 100
C4750 C4751 C4752 CH 220P/50
from EMMA2
from EMM

|  | EU | IBD/CHN |
|---|---|---|
| R4727-R4729,<br>R4742-R4744 | RS1/16SS101J-T<br>(100Ω 1/16W) | RS1/16SS220J-T<br>(22Ω 1/16W) |

| ITEM | USED | VACANT |  |
|---|---|---|---|
|  |  | EU | IBD/CHN |
|  |  | AWV2523-/AWV2524-/<br>AWV2463-/~~AWV2464-/~~<br>~~AWV2522-~~ | AWV2465-/AWV2466-/<br>AWV2467- |
| C | 4701-4736,<br>4740-4746,<br>4748, 4750-4752 | 4743, 4744, 4746 | 4705-4707, 4724, 4725,<br>4730, 4731, 4743, 4744,<br>4746 |
| CN | 4701 |  |  |
| D | 4701-4713 | 4705-4708, 4710-4713 | 4701-4703, 4705-4708<br>4710-4713 |
| IC | 4701-4703 |  |  |
| Q | 4701-4706 | 4705 | 4702, 4703, 4705, 4706 |
| R | 4701-4705,<br>4707-4731,<br>4733-4756,<br>4758-4773 | 4707, 4712, 4714, 4715,<br>4750, 4769, 4770 | 4701-4705, 4707-4713,<br>4719-4722, 4726, 4730,<br>4731, 4738-4741,<br>4745-4747, 4750,<br>4758-4760, 4763, 4765,<br>4767-4772 |

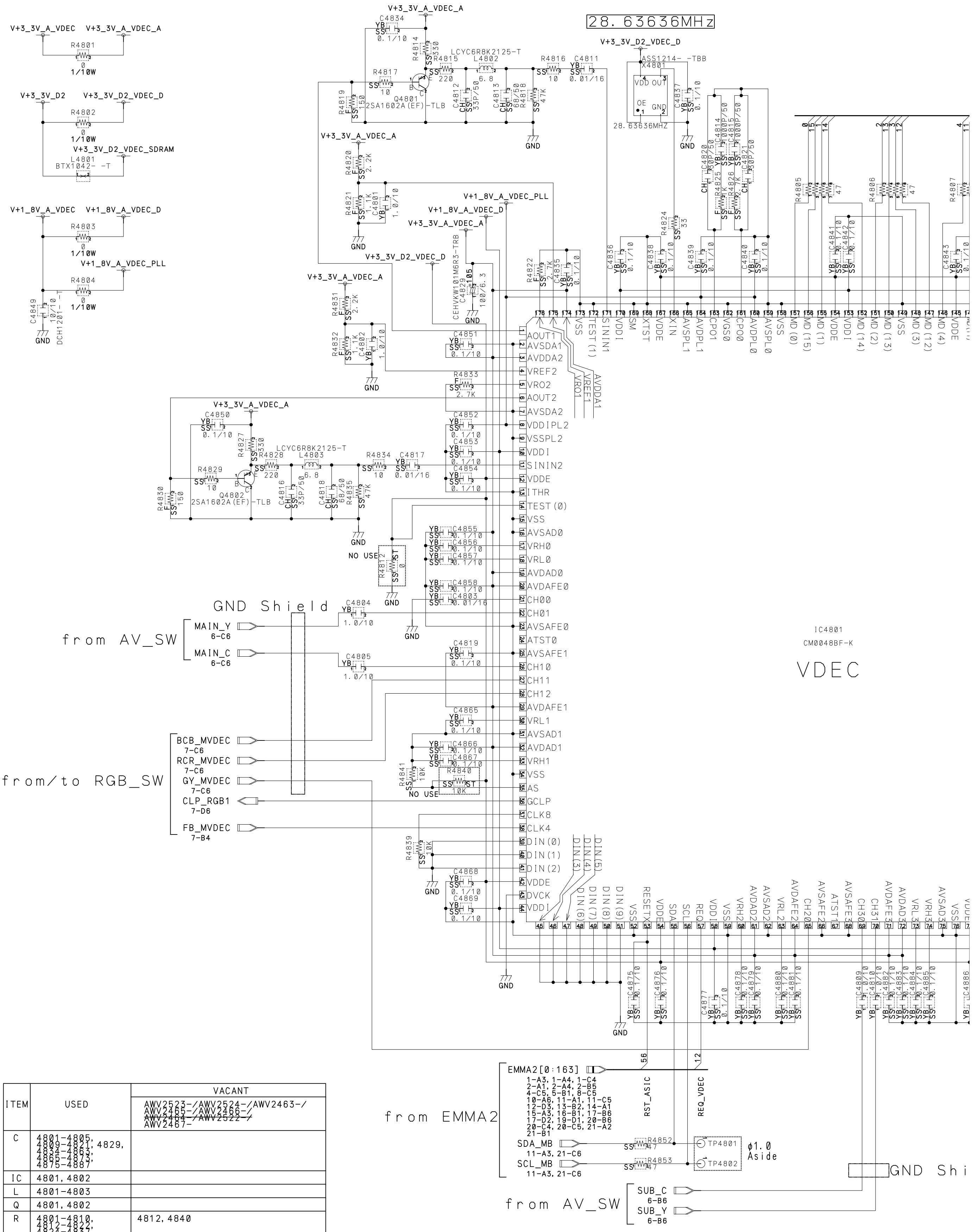


_UCOM
_A2_RGB
Q4702
HN1B04FU(YGR)-TRB
R4703 4.7K
R4704 100
R4758 15K
R4767 100
C4724 0.47/10
R4705 47K
R4771 100K
C4730 2.2/10 CCG1205- -T
GND
FB_MVDEC 8-C1
to VDEC
INPUT2_PB / OPEN
INPUT2_Y / OPEN
PC_R
PC_B
PC_G
PC_H
PC_V
XD, 0XD, 0XA, ZD, 0ZD
for EU
XD, 0XD, 0XA, ZD, 0ZD
φ1.0 Aside
R4754 22
R4755 22
R4756 22
C4734 1.0/10
C4735 1.0/10
C4736 1.0/10
GY_MVDEC
BCB_MVDEC
RCR_MVDEC
to VDEC
IC4701
R2S11001FT-K
RGBSW
DCH1201- -T
R4734 22
R4735 22
R4751 22
1.0Vp-p
GY_AD
BCB_AD
RCR_AD
to ADC
V+5V_A2_RGB
R4736 1K
Q4701 2SA1602A(EF)-TLB
R4737 22
COMP_Y
to AV_SW
φ1.0 Aside
R4773 100
CLP_RGB1
CLP_RGB2
from VDEC
from ARIA_1
CLP_RGB3
INT_HD
INT_VD
EXT_VD
EXT_HD
from/toARIA_0
SCL_AV5
SDA_AV5
SCL_MB5
SDA_MB5
R4752 47
R4753 47
R4769 47
R4770 47
NO USE
EMMA2

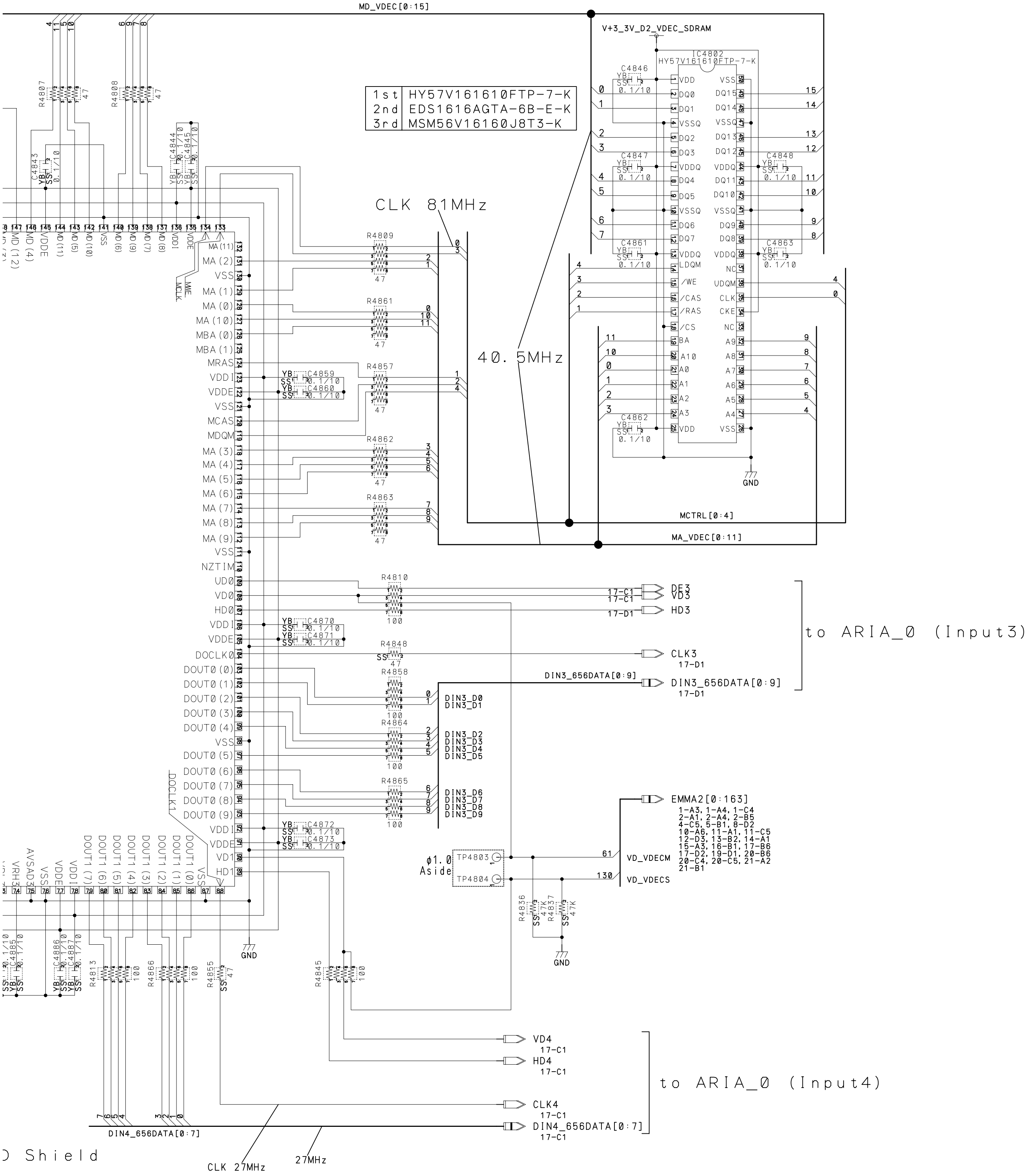
MAIN ASS'Y (EU/IBD/CHN) (07/22)
RGB_SW BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

# 9.8 MAIN ASSY (8/20) [VDEC BLOCK]


A
B
C
D
E
F
V+3_3V_A_VDEC
V+3_3V_A_VDEC_A
R4801
1/10W
V+3_3V_D2
V+3_3V_D2_VDEC_D
R4802
V+3_3V_D2_VDEC_SDRAM
L4801
BTX1042- -T
V+1_8V_A_VDEC
V+1_8V_A_VDEC_D
R4803
V+1_8V_A_VDEC_PLL
R4804
C4849
DCH1201- -T
GND
28.63636MHz
C4834
R4814
LCYC6R8K2125-T
L4802
R4815
R4816
C4811
R4817
Q4801
2SA1602A(EF)-TLB
R4819
C4812
C4813
R4818
ASS1214- -TBB
X4801
VDD OUT
OE
GND
28.63636MHZ
C4837
R4820
R4821
C4801
V+1_8V_A_VDEC_PLL
V+1_8V_A_VDEC_D
V+3_3V_A_VDEC_A
V+3_3V_D2_VDEC_D
CEHVKW101M6R3-TRB
C4829
R4822
C4835
C4836
C4838
R4824
C4839
C4840
C4820
R4825
C4814
R4826
C4815
C4821
R4805
R4806
R4807
C4841
C4842
C4843
R4831
R4832
C4802
C4851
R4833
C4850
R4827
R4828
L4803
R4834
C4817
R4829
Q4802
R4830
C4816
C4818
R4835
C4852
C4853
C4854
C4855
C4856
C4857
C4858
C4803
NO USE
R4812
GND Shield
C4804
C4805
from AV_SW
MAIN_Y 6-C6
MAIN_C 6-C6
C4819
C4865
C4866
C4867
R4840
R4841
from/to RGB_SW
BCB_MVDEC 7-C6
RCR_MVDEC 7-C6
GY_MVDEC 7-C6
CLP_RGB1 7-D6
FB_MVDEC 7-B4
R4839
C4868
C4869
IC4801
CM0048BF-K
VDEC
AOUT1
AVSDA1
AVDDA2
VREF2
VRO2
AOUT2
AVSDA2
VDDIPL2
VSSPL2
VDDI
SININ2
VDDE
ITHR
TEST(0)
VSS
AVSAD0
VRH0
VRL0
AVDAD0
AVDAFE0
CH00
CH01
AVSAFE0
ATST0
AVSAFE1
CH10
CH11
CH12
AVDAFE1
VRL1
AVSAD1
AVDAD1
VRH1
AS
GCLP
CLK8
CLK4
DIN(0)
DIN(1)
DIN(2)
DVCK
DIN(3)
DIN(4)
DIN(5)
DIN(6)
DIN(7)
DIN(8)
DIN(9)
RESETX
SDA
SCL
REQ
VRH2
AVDAD2
AVSAD2
VRL2
AVDAFE2
CH20
AVSAFE2
ATST1
AVSAFE3
CH30
CH31
AVDAFE3
AVDAD3
VRL3
VRH3
AVSAD3
VRO1
VREF1
AVDDA1
SININ1
TEST(1)
XTST
SM
XIN
AVSPL1
CPO1
VGS0
CPO0
AVDPL0
AVSPL0
AVDPL1
MD(0)
MD(15)
MD(1)
MD(14)
MD(2)
MD(13)
MD(3)
MD(12)
MD(4)
C4875
C4876
C4877
C4878
C4879
C4880
C4881
C4809
C4810
C4882
C4883
C4884
C4885
C4886
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
10-A6, 11-A1, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
from EMMA2
RST_ASIC
REQ_VDEC
SDA_MB 11-A3, 21-C6
SCL_MB 11-A3, 21-C6
R4852
R4853
TP4801
TP4802
φ1.0 Aside
GND Shi
from AV_SW
SUB_C 6-B6
SUB_Y 6-B6

| ITEM | USED | VACANT |
|---|---|---|
| | | AWV2523-/AWV2524-/AWV2463-/<br>AWV2465-/AWV2466-/<br>~~AWV2464-/AWV2522-/~~<br>AWV2467- |
| C | 4801-4805,<br>4809-4821, 4829,<br>4834-4863,<br>4865-4873,<br>4875-4887 | |
| IC | 4801, 4802 | |
| L | 4801-4803 | |
| Q | 4801, 4802 | |
| R | 4801-4810,<br>4812-4822,<br>4824-4837,<br>4839-4841, 4845,<br>4848, 4852-4853,<br>4855, 4857, 4858,<br>4861-4866 | 4812, 4840 |
| X | 4801 | |

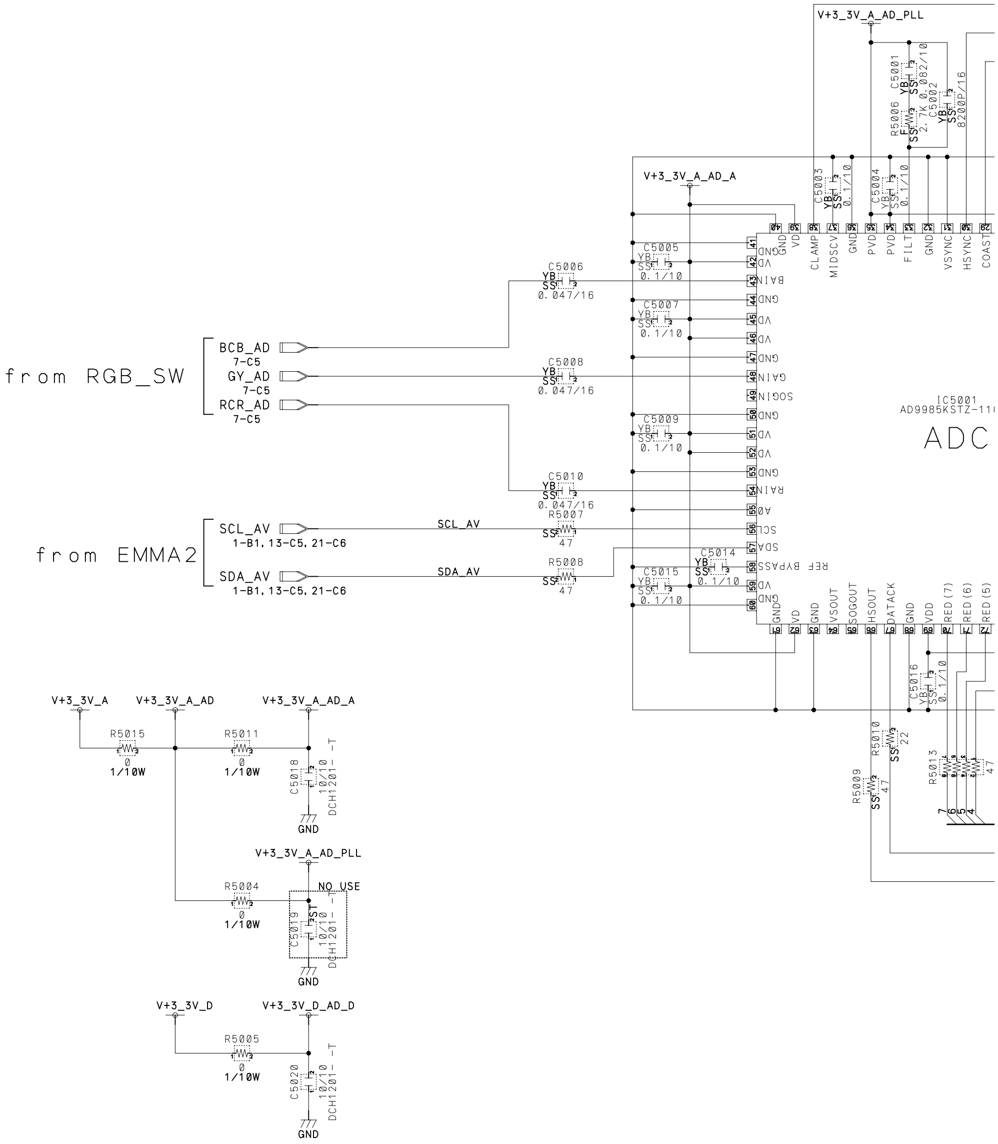

MD_VDEC[0:15]
V+3_3V_D2_VDEC_SDRAM
IC4802
HY57V161610FTP-7-K
1st HY57V161610FTP-7-K
2nd EDS1616AGTA-6B-E-K
3rd MSM56V16160J8T3-K
R4807
R4808
C4843
C4844
C4845
C4846
C4847
C4848
C4861
C4862
C4863
CLK 81MHz
40.5MHz
R4809
R4861
R4857
R4862
R4863
R4810
R4848
R4858
R4864
R4865
C4859
C4860
C4870
C4871
C4872
C4873
MA(11)
MA(2)
VSS
MA(1)
MA(0)
MA(10)
MBA(0)
MBA(1)
MRAS
VDDI
VDDE
MCAS
MDQM
MA(3)
MA(4)
MA(5)
MA(6)
MA(7)
MA(8)
MA(9)
NZTIM
UD0
VD0
HD0
DOCLK0
DOUT0(0)
DOUT0(1)
DOUT0(2)
DOUT0(3)
DOUT0(4)
DOUT0(5)
DOUT0(6)
DOUT0(7)
DOUT0(8)
DOUT0(9)
VD1
HD1
DOCLK1
MCLK
MWE
VDD
DQ0
DQ1
VSSQ
DQ2
DQ3
VDDQ
DQ4
DQ5
DQ6
DQ7
LDQM
/WE
/CAS
/RAS
/CS
BA
A10
A0
A1
A2
A3
DQ15
DQ14
DQ13
DQ12
DQ11
DQ10
DQ9
DQ8
NC
UDQM
CLK
CKE
A9
A8
A7
A6
A5
A4
GND
MCTRL[0:4]
MA_VDEC[0:11]
DE3
VD3
HD3
CLK3
17-C1
17-D1
DIN3_656DATA[0:9]
DIN3_D0
DIN3_D1
DIN3_D2
DIN3_D3
DIN3_D4
DIN3_D5
DIN3_D6
DIN3_D7
DIN3_D8
DIN3_D9
to ARIA_0 (Input3)
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-D2
10-A6, 11-A1, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
TP4803
TP4804
φ1.0
Aside
VD_VDECM
VD_VDECS
R4836
R4837
4.7K
R4813
R4866
R4855
R4845
C4885
C4886
C4887
AVSAD3
VRH3
DOUT1(7)
DOUT1(6)
DOUT1(5)
DOUT1(4)
DOUT1(3)
DOUT1(2)
DOUT1(1)
DOUT1(0)
VD4
HD4
CLK4
DIN4_656DATA[0:7]
to ARIA_0 (Input4)
CLK 27MHz
27MHz
D Shield

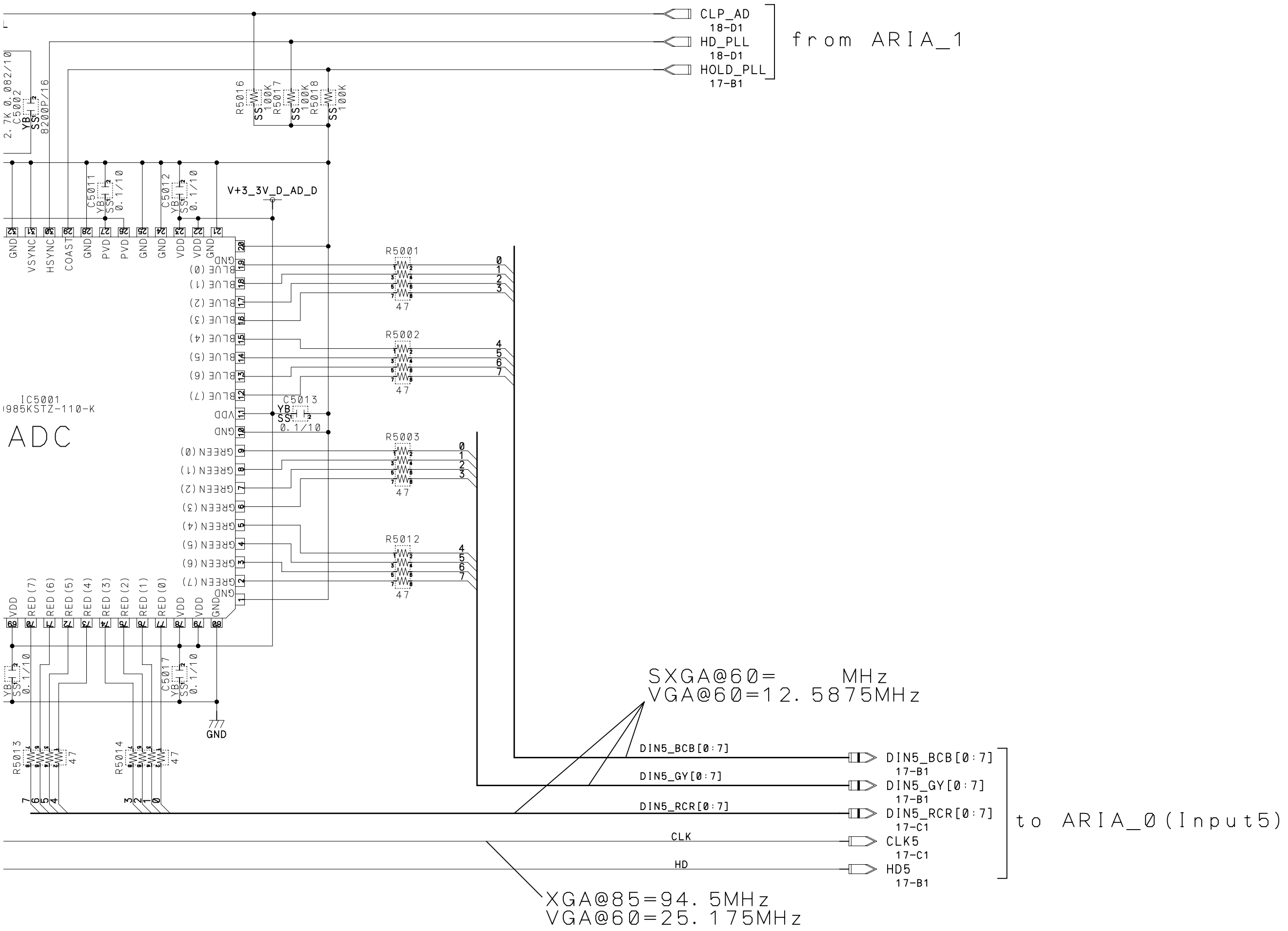
MAIN ASS'Y (EU/IBD/CHN) (08/22)
VDEC BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

# 9.9 MAIN ASSY (9/20) [ADC BLOCK]

| ITEM | USED | VACANT |
|---|---|---|
| | | AWV2523-/AWV2524-/AWV2463-/<br>AWV2465-/AWV2466-/<br>~~AWV2464-/AWV2522-/~~<br>AWV2467- |
| C | 5001-5020 | 5019 |
| IC | 5001 | |
| R | 5001-5018 | |

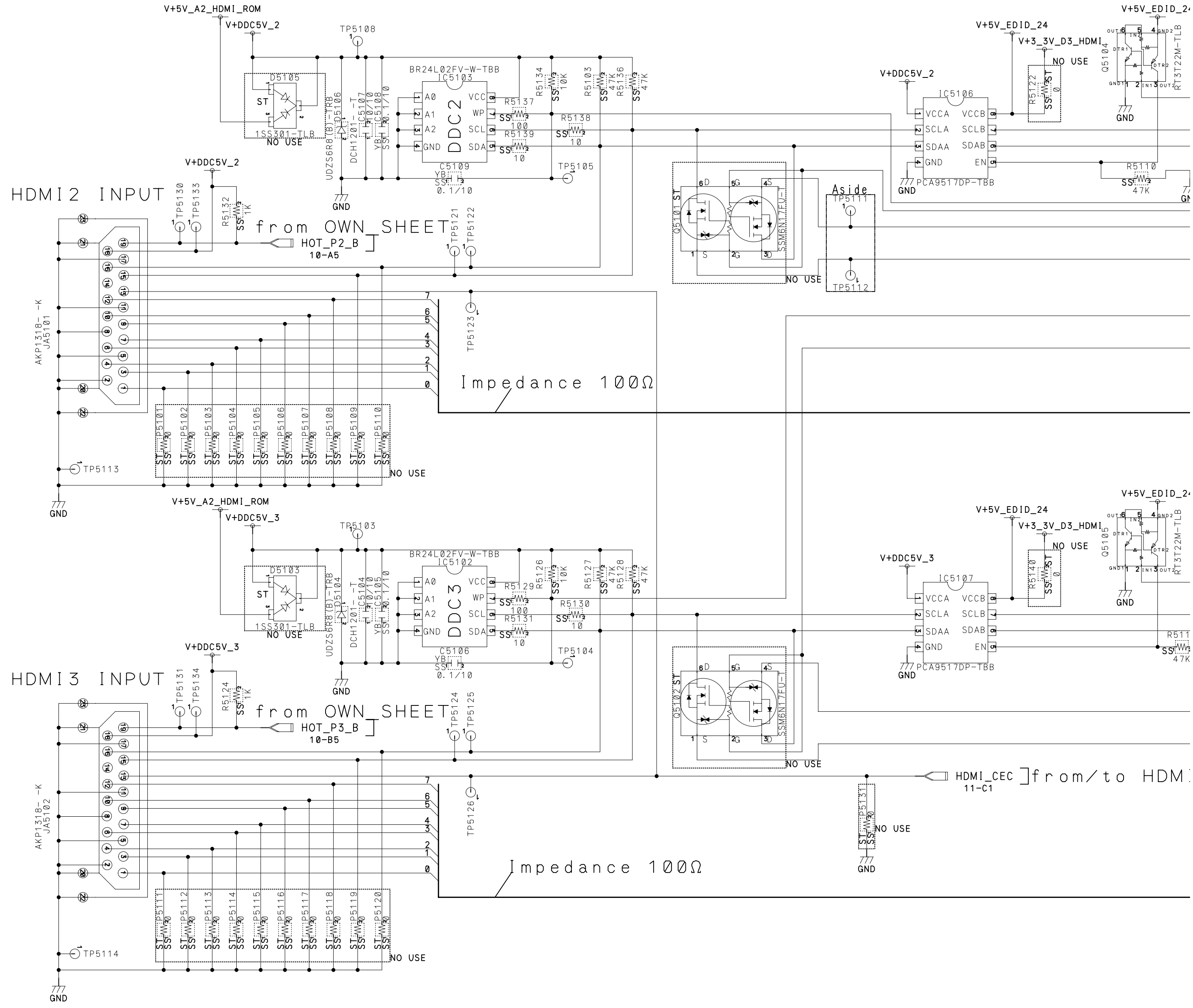

V+3_3V_A_AD_PLL
R5006 F SS 2.7K
C5001 YB SS 0.082/10
C5002 YB SS 8200P/16
V+3_3V_A_AD_A
C5003 YB SS 0.1/10
C5004 YB SS 0.1/10
40 GND
39 VD
38 CLAMP
37 MIDSCV
36 GND
35 PVD
34 PVD
33 FILT
32 GND
31 VSYNC
30 HSYNC
29 COAST
41 GND
42 VD
43 BAIN
44 GND
45 VD
46 VD
47 GND
48 GAIN
49 SOGIN
50 GND
51 VD
52 VD
53 GND
54 RAIN
55 A0
56 SCL
57 SDA
58 REF BYPASS
59 VD
60 GND
61 GND
62 VD
63 GND
64 VSOUT
65 SOGOUT
66 HSOUT
67 DATACK
68 GND
69 VDD
70 RED(7)
71 RED(6)
72 RED(5)
C5005 YB SS 0.1/10
C5006 YB SS 0.047/16
C5007 YB SS 0.1/10
C5008 YB SS 0.047/16
C5009 YB SS 0.1/10
C5010 YB SS 0.047/16
R5007 SS 47
R5008 SS 47
C5014 YB SS 0.1/10
C5015 YB SS 0.1/10
C5016 YB SS 0.1/10
R5009 SS 47
R5010 SS 22
R5013 47
7 6 5 4
IC5001
AD9985KSTZ-11
ADC
from RGB_SW
BCB_AD 7-C5
GY_AD 7-C5
RCR_AD 7-C5
from EMMA2
SCL_AV 1-B1, 13-C5, 21-C6
SDA_AV 1-B1, 13-C5, 21-C6
SCL_AV
SDA_AV
V+3_3V_A
V+3_3V_A_AD
V+3_3V_A_AD_A
R5015 0 1/10W
R5011 0 1/10W
C5018 10/10 DCH1201- -T
GND
V+3_3V_A_AD_PLL
R5004 0 1/10W
NO USE
C5019 ST 10/10 DCH1201- -T
GND
V+3_3V_D
V+3_3V_D_AD_D
R5005 0 1/10W
C5020 10/10 DCH1201- -T
GND
A B C D E F


CLP_AD
18-D1
HD_PLL
18-D1
HOLD_PLL
17-B1
from ARIA_1
R5016 100K
R5017 100K
R5018 100K
2.7K 0.082/10
C5002
8200P/16
C5011 0.1/10
C5012 0.1/10
V+3_3V_D_AD_D
GND
VSYNC
HSYNC
COAST
PVD
VDD
BLUE(0)
BLUE(1)
BLUE(2)
BLUE(3)
BLUE(4)
BLUE(5)
BLUE(6)
BLUE(7)
GREEN(0)
GREEN(1)
GREEN(2)
GREEN(3)
GREEN(4)
GREEN(5)
GREEN(6)
GREEN(7)
RED(7)
RED(6)
RED(5)
RED(4)
RED(3)
RED(2)
RED(1)
RED(0)
IC5001
AD9985KSTZ-110-K
ADC
C5013 0.1/10
C5017 0.1/10
R5001 47
R5002 47
R5003 47
R5012 47
R5013 47
R5014 47
SXGA@60= MHz
VGA@60=12.5875MHz
DIN5_BCB[0:7]
DIN5_GY[0:7]
DIN5_RCR[0:7]
CLK
HD
DIN5_BCB[0:7]
17-B1
DIN5_GY[0:7]
17-B1
DIN5_RCR[0:7]
17-C1
CLK5
17-C1
HD5
17-B1
to ARIA_0(Input5)
XGA@85=94.5MHz
VGA@60=25.175MHz

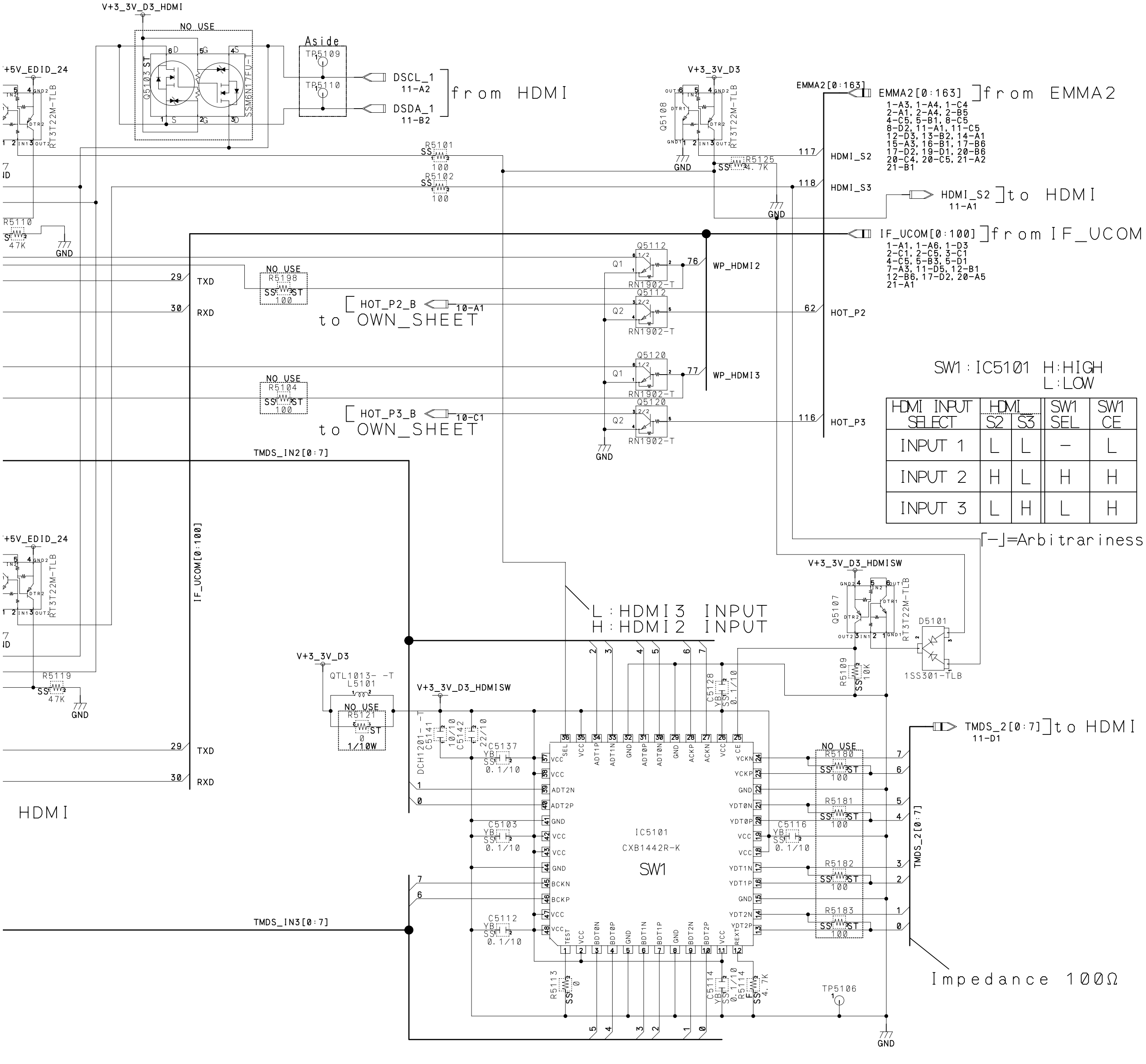
MAIN ASS'Y (EU/IBD/CHN) (09/22)
ADC BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

# 9.10 MAIN ASSY (10/20) [HDMI SW BLOCK]


V+5V_A2_HDMI_ROM
V+DDC5V_2
TP5108
BR24L02FV-W-TBB
IC5103
DDC2
D5105
1SS301-TLB
NO USE
UDZS6R8(B)-TRB
D5106
DCH1201-T
C5107
C5108
C5109
R5134
R5103
R5136
R5137
R5138
R5139
TP5105
V+DDC5V_2
HDMI2 INPUT
TP5130
TP5133
R5132
from OWN_SHEET
HOT_P2_B
10-A5
TP5121
TP5122
AKP1318-K
JA5101
TP5123
Impedance 100Ω
TP5113
GND
Q5101
SSM6N17FU-T
NO USE
Aside
TP5111
TP5112
V+5V_EDID_24
V+3_3V_D3_HDMI
V+DDC5V_2
IC5106
PCA9517DP-TBB
R5122
R5110
Q5104
RT3T22M-TLB
V+5V_EDID_24
V+5V_A2_HDMI_ROM
V+DDC5V_3
TP5103
BR24L02FV-W-TBB
IC5102
DDC3
D5103
D5104
C5104
C5105
C5106
R5126
R5127
R5128
R5129
R5130
R5131
TP5104
V+DDC5V_3
HDMI3 INPUT
TP5131
TP5134
R5124
from OWN_SHEET
HOT_P3_B
10-B5
TP5124
TP5125
AKP1318-K
JA5102
TP5126
Impedance 100Ω
TP5114
GND
Q5102
SSM6N17FU-T
NO USE
V+5V_EDID_24
V+3_3V_D3_HDMI
V+DDC5V_3
IC5107
PCA9517DP-TBB
R5140
R5111
Q5105
RT3T22M-TLB
HDMI_CEC
11-C1
from/to HDM
P5131
NO USE

| ITEM | USED | VACANT |
|---|---|---|
| | | AWV2523-/AWV2524-/AWV2463-/<br>AWV2465-/AWV2466-/<br>~~AWV2464-/AWV2522-/~~<br>AWV2467- |
| C | 5103-5109, 5112,<br>5114, 5116, 5128,<br>5137, 5141, 5142 | |
| D | 5101, 5103-5106 | 5103, 5105 |
| IC | 5101-5103, 5106,<br>5107 | |
| JA | 5101, 5102 | |
| L | 5101 | |
| P | 5101-5120, 5131 | 5101-5120, 5131 |
| Q | 5101-5105, 5107,<br>5108, 5112, 5120 | 5101-5103 |
| R | 5101-5104, 5109,<br>5110, 5113, 5114,<br>5119, 5121, 5122,<br>5124-5132, 5134,<br>5136-5140,<br>5180-5183, 5198 | 5104, 5121, 5122, 5140, 5180-5183,<br>5198 |


V+3_3V_D3_HDMI
NO USE
Q5103 ST
SSM6N17FU-T
Aside
TP5109
TP5110
DSCL_1
11-A2
DSDA_1
11-B2
from HDMI
+5V_EDID_24
RT3T22M-TLB
R5101
SS
100
R5102
SS
100
R5110
47K
GND
V+3_3V_D3
Q5108
R5125
4.7K
EMMA2[0:163]
EMMA2[0:163]
from EMMA2
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
8-D2, 11-A1, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
117
HDMI_S2
118
HDMI_S3
HDMI_S2
11-A1
to HDMI
IF_UCOM[0:100]
from IF_UCOM
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
4-C5, 5-B3, 5-D1
7-A3, 11-D5, 12-B1
12-B6, 17-D2, 20-A5
21-A1
Q5112
Q1
RN1902-T
76
WP_HDMI2
29
TXD
30
RXD
NO USE
R5198
SS ST
100
HOT_P2_B
10-A1
to OWN_SHEET
Q2
62
HOT_P2
Q5120
77
WP_HDMI3
NO USE
R5104
SS ST
100
HOT_P3_B
10-C1
to OWN_SHEET
116
HOT_P3
GND
TMDS_IN2[0:7]
IF_UCOM[0:100]
+5V_EDID_24
RT3T22M-TLB
V+3_3V_D3_HDMISW
Q5107
D5101
1SS301-TLB
R5109
10K
L:HDMI3 INPUT
H:HDMI2 INPUT
V+3_3V_D3
QTL1013- -T
L5101
NO USE
R5121
0
1/10W
R5119
47K
GND
V+3_3V_D3_HDMISW
C5128
0.1/10
DCH1201- -T
C5141
10/10
C5142
22/10
C5137
0.1/10
C5103
0.1/10
C5112
0.1/10
C5116
0.1/10
IC5101
CXB1442R-K
SW1
SEL VCC ADT1P ADT1N GND ADT0P ADT0N GND ACKP ACKN VCC CE
VCC VCC ADT2N ADT2P GND VCC VCC GND BCKN BCKP VCC VCC
YCKN YCKP GND YDT0N YDT0P VCC VCC YDT1N YDT1P GND YDT2N YDT2P
TEST VCC BDT0N BDT0P GND BDT1N BDT1P GND BDT2N BDT2P VCC REXT
29
TXD
30
RXD
HDMI
TMDS_IN3[0:7]
NO USE
R5180
R5181
R5182
R5183
SS ST
100
TMDS_2[0:7]
11-D1
to HDMI
TMDS_2[0:7]
Impedance 100Ω
R5113
0
C5114
0.1/10
R5114
4.7K
TP5106
GND

SW1 : IC5101 H:HIGH
L:LOW

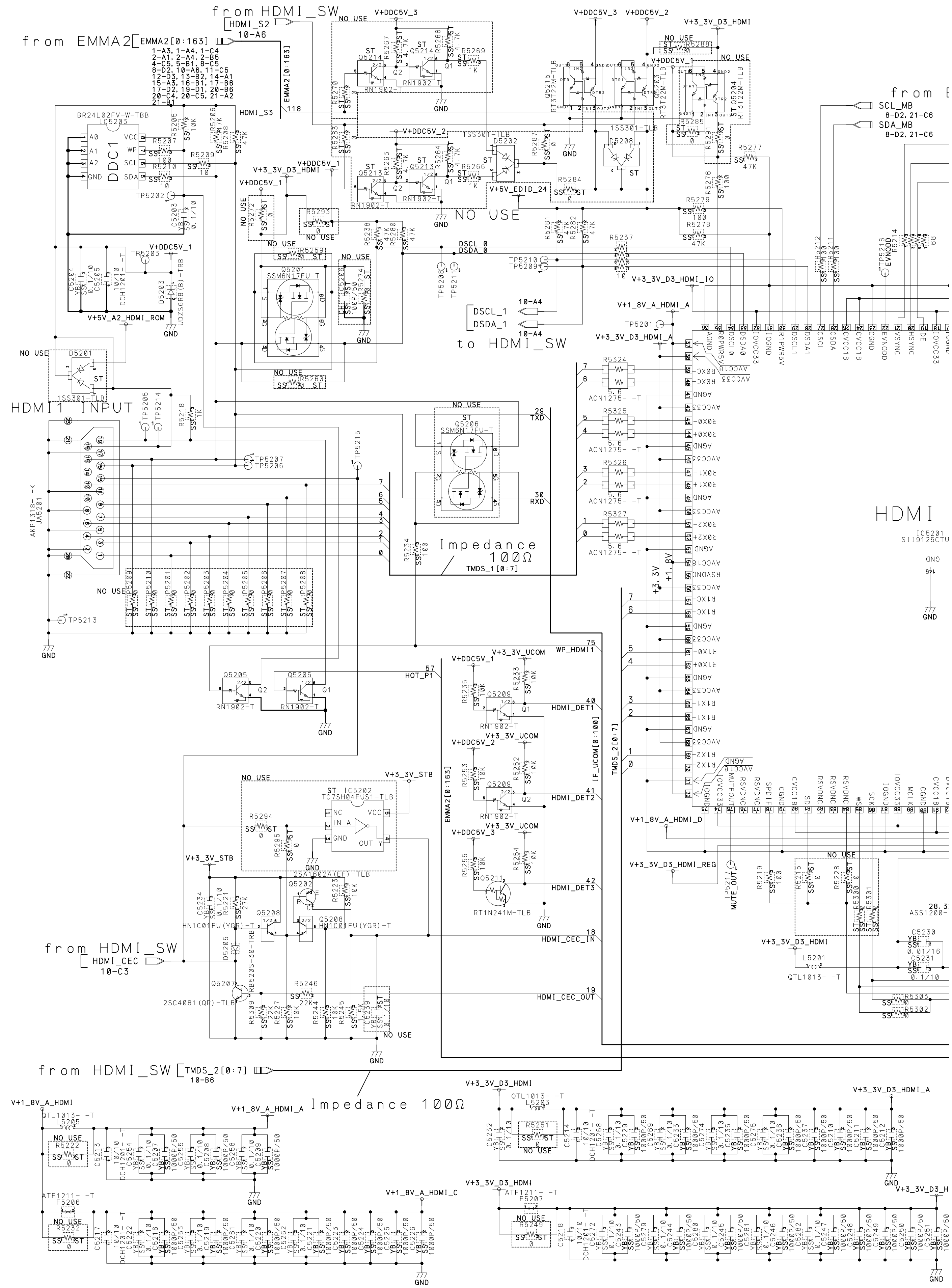
| HDMI INPUT SELECT | HDMI_ S2 | HDMI_ S3 | SW1 SEL | SW1 CE |
|---|---|---|---|---|
| INPUT 1 | L | L | – | L |
| INPUT 2 | H | L | H | H |
| INPUT 3 | L | H | L | H |

「–」=Arbitrariness

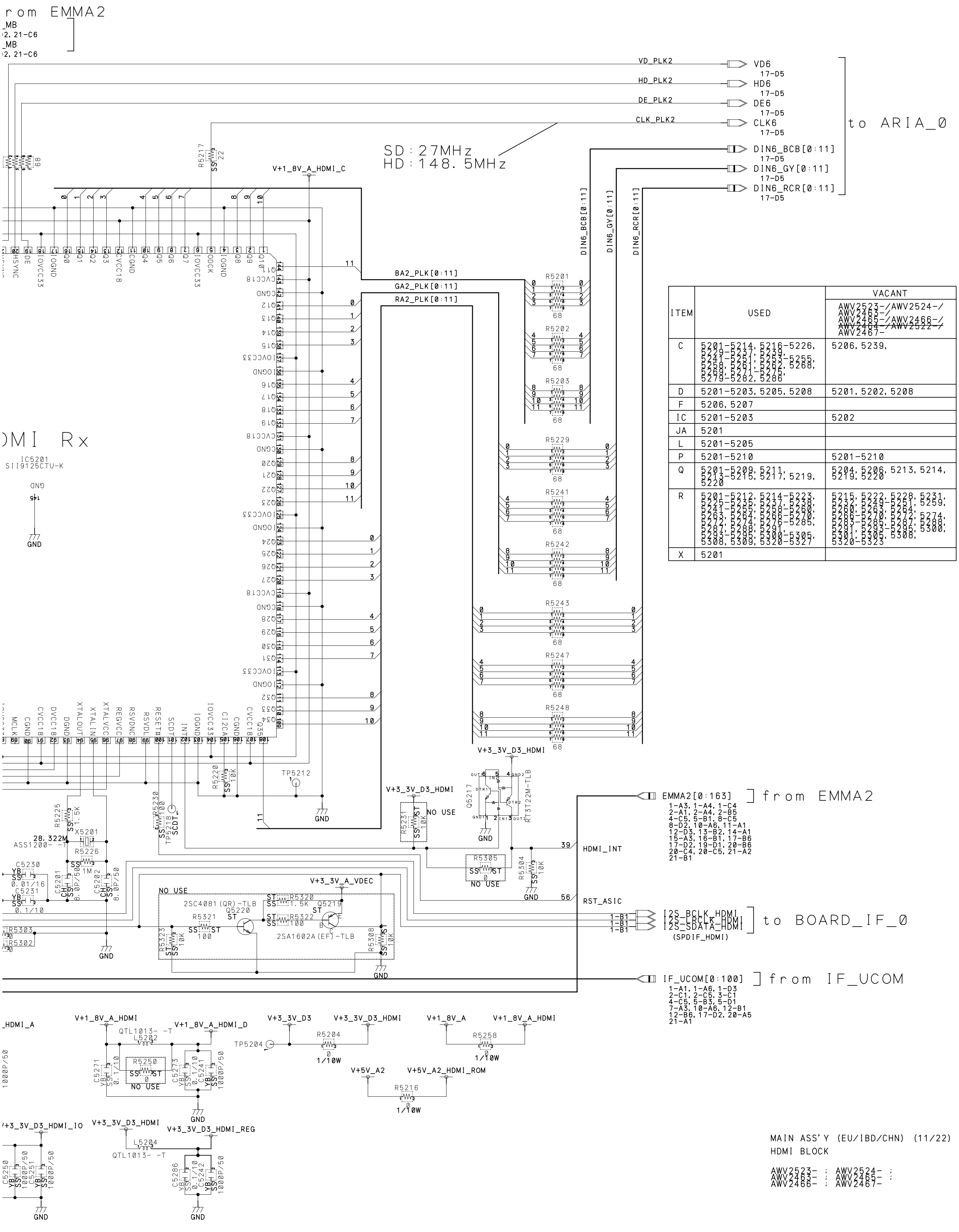
MAIN ASS'Y (EU/IBD/CHN) (10/22)
HDMI_SW BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

# 9.11 MAIN ASSY (11/20) [HDMI BLOCK]



from HDMI_SW
HDMI_S2
10-A6
from EMMA2
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
8-D2, 10-A6, 11-C5
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
HDMI_S3
118
BR24L02FV-W-TBB
IC5203
DDC1
A0
A1
A2
GND
VCC
WP
SCL
SDA
V+DDC5V_3
V+DDC5V_2
V+DDC5V_1
V+3_3V_D3_HDMI
NO USE
RN1902-T
1SS301-TLB
D5202
D5208
RT3T22M-TLB
Q5215
Q5203
Q5204
from EMMA2
SCL_MB
8-D2, 21-C6
SDA_MB
8-D2, 21-C6
V+5V_EDID_24
NO USE
TP5202
V+5V_A2_HDMI_ROM
GND
DCH1201-T
UDZS6R8(B)-TRB
D5203
SSM6N17FU-T
Q5201
DSCL_0
DSDA_0
TP5210
TP5209
TP5208
TP5211
DSCL_1
DSDA_1
10-A4
to HDMI_SW
V+3_3V_D3_HDMI_IO
V+1_8V_A_HDMI_A
TP5201
V+3_3V_D3_HDMI_A
R5324
R5325
R5326
R5327
ACN1275-T
D5201
1SS301-TLB
HDMI1 INPUT
TP5205
TP5214
TP5207
TP5206
TP5215
AKP1318-K
JA5201
Q5206
SSM6N17FU-T
29
TXD
30
RXD
Impedance 100Ω
TMDS_1[0:7]
HDMI
IC5201
SII9125CTU
+3.3V
+1.8V
TP5213
75
WP_HDMI1
57
HOT_P1
Q5205
40
HDMI_DET1
41
HDMI_DET2
42
HDMI_DET3
V+3_3V_UCOM
Q5209
Q5211
RT1N241M-TLB
IF_UCOM[0:100]
TMDS_2[0:7]
EMMA2[0:163]
IC5202
TC7SH04FUS1-TLB
NC
IN A
OUT Y
V+3_3V_STB
2SA1602A(EF)-TLB
Q5202
Q5208
HN1C01FU(YGR)-T
RB520S-30-TRB
D5205
from HDMI_SW
HDMI_CEC
10-C3
Q5207
2SC4081(QR)-TLB
18
HDMI_CEC_IN
19
HDMI_CEC_OUT
V+1_8V_A_HDMI_D
V+3_3V_D3_HDMI_REG
TP5217
MUTE_OUT
28.3
ASS1200
L5201
QTL1013-T
R5303
R5302
from HDMI_SW
TMDS_2[0:7]
10-B6
Impedance 100Ω
V+1_8V_A_HDMI
L5205
V+1_8V_A_HDMI_A
ATF1211-T
F5206
V+1_8V_A_HDMI_C
L5203
F5207
V+3_3V_D3_HDMI_A
V+3_3V_D3_HDMI



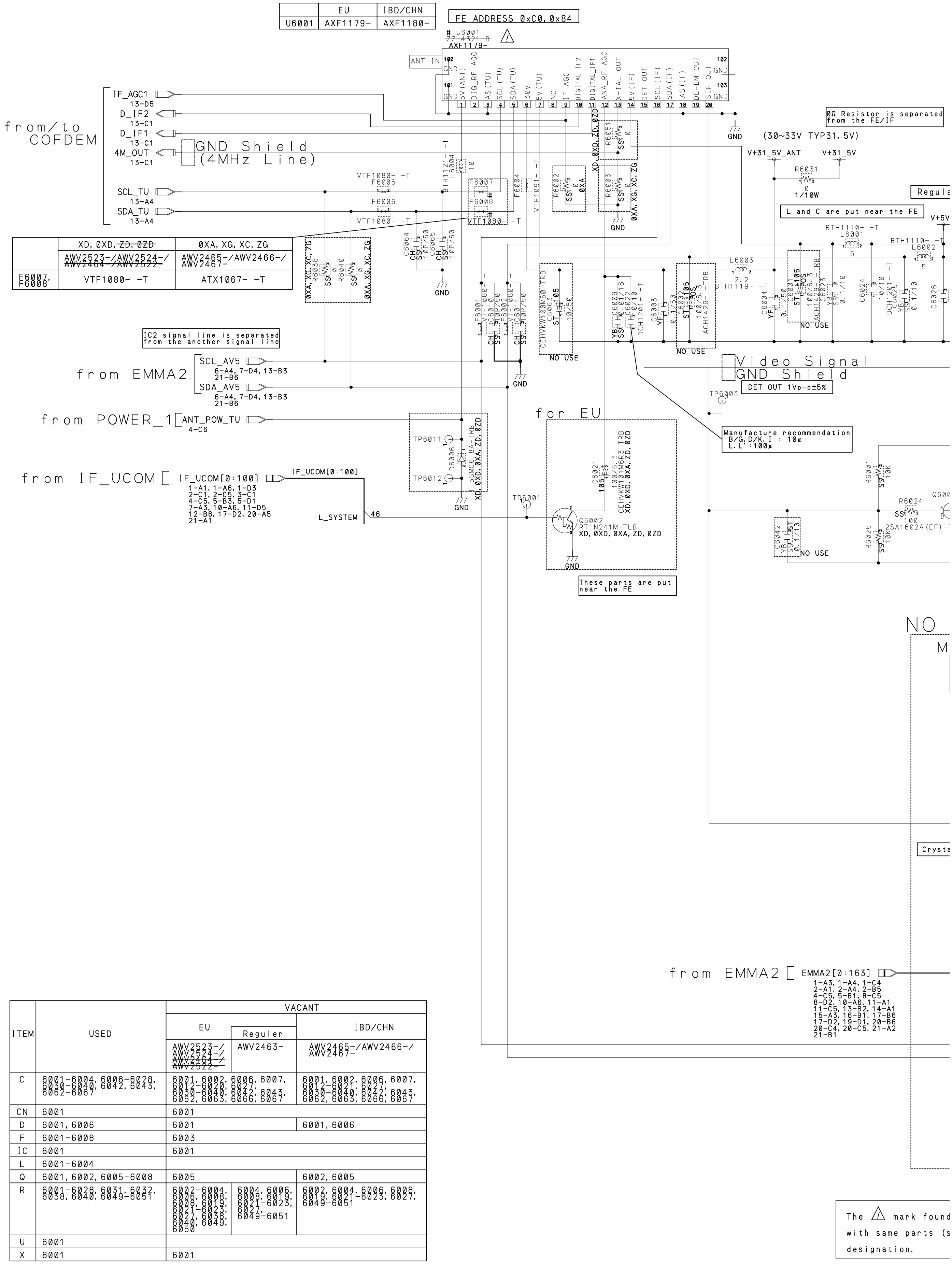
from EMMA2
VD_PLK2
HD_PLK2
DE_PLK2
CLK_PLK2
VD6 17-D5
HD6 17-D5
DE6 17-D5
CLK6 17-D5
DIN6_BCB[0:11] 17-D5
DIN6_GY[0:11] 17-D5
DIN6_RCR[0:11] 17-D5
to ARIA_0
SD:27MHz
HD:148.5MHz
V+1_8V_A_HDMI_C
R5217 22
BA2_PLK[0:11]
GA2_PLK[0:11]
RA2_PLK[0:11]
R5201 68
R5202 68
R5203 68
R5229 68
R5241 68
R5242 68
R5243 68
R5247 68
R5248 68
HDMI Rx
IC5201
SII9125CTU-K
GND
V+3_3V_D3_HDMI
Q5217
RT3T22M-TLB
R5220 10K
TP5212
R5231 10K
NO USE
R5305 0
R5304 10K
R5225 1.5K
X5201
28.322M
ASS1200- -T
R5226 1M
C5230 0.01/16
C5231 0.1/10
C5201 8.0P/50
C5202 8.0P/50
R5230 100
TP5218 SCDT
V+3_3V_A_VDEC
2SC4081(QR)-TLB
Q5220
R5320 1.5K
Q5219
R5321 100
R5322 100
R5323 10K
2SA1602A(EF)-TLB
R5308 10K
R5303
R5302
EMMA2[0:163]
from EMMA2
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
8-D2, 10-A6, 11-A1
12-D3, 13-B2, 14-A1
15-A3, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
39 HDMI_INT
56 RST_ASIC
I2S_BCLK_HDMI
I2S_LRCLK_HDMI
I2S_SDATA_HDMI
(SPDIF_HDMI)
to BOARD_IF_0
IF_UCOM[0:100]
from IF_UCOM
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
4-C5, 5-B3, 5-D1
7-A3, 10-A6, 12-B1
12-B6, 17-D2, 20-A5
21-A1
V+1_8V_A_HDMI
V+1_8V_A_HDMI_D
QTL1013- -T
L5202
R5250 0
C5271 0.1/10
C5273 0.1/10
C5241 1000P/50
V+3_3V_D3
TP5204
R5204 0 1/10W
V+1_8V_A
R5258 0 1/10W
V+5V_A2
V+5V_A2_HDMI_ROM
R5216 0 1/10W
V+3_3V_D3_HDMI_IO
V+3_3V_D3_HDMI_REG
L5204
C5250 1000P/50
C5251 1000P/50
C5286 0.1/10
C5242 1000P/50
GND

| ITEM | USED | VACANT |
|---|---|---|
| | | AWV2523-/AWV2524-/<br>AWV2463-/<br>AWV2465-/AWV2466-/<br>~~AWV2464-/AWV2522-/~~<br>AWV2467- |
| C | 5201-5214, 5216-5226,<br>5229-5237, 5239,<br>5241-5251, 5253-5255,<br>5258, 5261, 5262, 5268,<br>5269, 5271-5275,<br>5279-5282, 5286 | 5206, 5239, |
| D | 5201-5203, 5205, 5208 | 5201, 5202, 5208 |
| F | 5206, 5207 | |
| IC | 5201-5203 | 5202 |
| JA | 5201 | |
| L | 5201-5205 | |
| P | 5201-5210 | 5201-5210 |
| Q | 5201-5209, 5211,<br>5213-5215, 5217, 5219,<br>5220 | 5204, 5206, 5213, 5214,<br>5219, 5220 |
| R | 5201-5212, 5214-5223,<br>5225-5235, 5237, 5238,<br>5241-5255, 5258-5260,<br>5263, 5264, 5266-5270,<br>5272, 5274, 5276-5285,<br>5287, 5288, 5291,<br>5293-5295, 5300-5305,<br>5308, 5309, 5320-5327 | 5215, 5222, 5228, 5231,<br>5232, 5249-5251, 5259,<br>5260, 5263, 5264,<br>5266-5270, 5272, 5274,<br>5283-5285, 5287, 5288,<br>5291, 5293-5295, 5300,<br>5301, 5305, 5308,<br>5320-5323 |
| X | 5201 | |

MAIN ASS'Y (EU/IBD/CHN) (11/22)
HDMI BLOCK

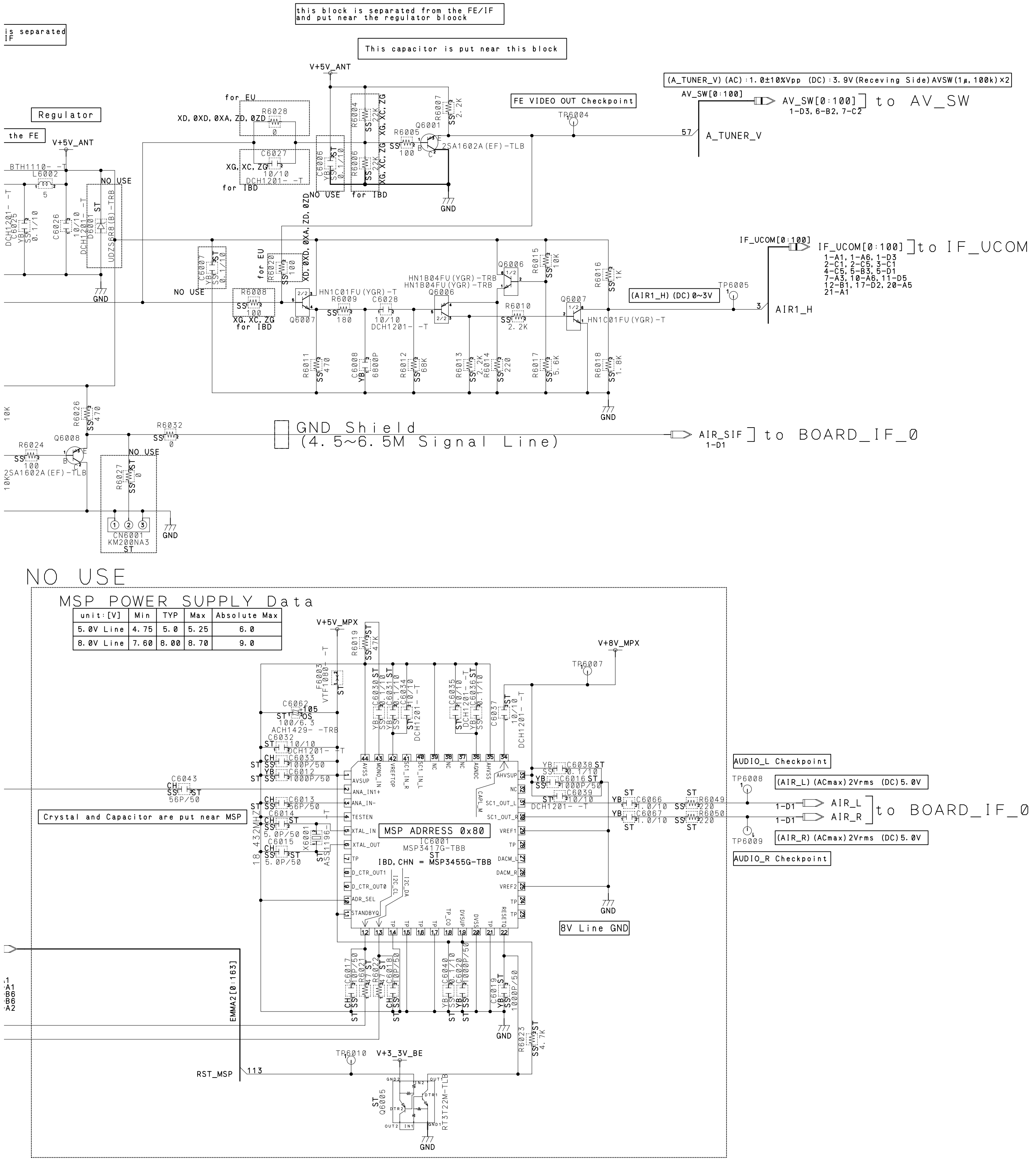
AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

# 9.12 MAIN ASSY (12/20) [TUNER BLOCK]



A
B
C
D
E
F
U6001 EU AXF1179- IBD/CHN AXF1180-
FE ADDRESS 0xC0,0x84
U6001
ZZ 4321 B
AXF1179-
ANT IN
GND
5V(ANT)
DIG_RF AGC
AS(TU)
SCL(TU)
SDA(TU)
30V
5V(TU)
NC
IF AGC
DIGITAL_IF2
DIGITAL_IF1
ANA_RF AGC
X-TAL OUT
5V(IF)
DET OUT
SCL(IF)
SDA(IF)
AS(IF)
DE-EM OUT
SIF OUT
from/to COFDEM
IF_AGC1 13-D5
D_IF2 13-C1
D_IF1 13-C1
4M_OUT 13-C1
GND Shield (4MHz Line)
SCL_TU 13-A4
SDA_TU 13-A4
0Ω Resistor is separated from the FE/IF
(30~33V TYP31.5V)
V+31_5V_ANT
V+31_5V
R6031 0 1/10W
Regula
L and C are put near the FE
V+5V
XD,0XD,~~ZD,0ZD~~ | 0XA,XG,XC,ZG
AWV2523-/AWV2524-/ ~~AWV2464-/AWV2522-~~ | AWV2465-/AWV2466-/ AWV2467-
F6007, F6008 | VTF1080- -T | ATX1067- -T
VTF1080- -T
F6005
F6006
F6007
F6008
BTH1121- -T
L6004
VTF1091- -T
R6002
R6003
R6051
R6038
R6040
0XA,XG,XC,ZG
XD,0XD,0XA,ZD,0ZD
BTH1110- -T
L6001
L6002
L6003
BTH1119- -T
ACH1429- -TRB
NO USE
IC2 signal line is separated from the another signal line
from EMMA2
SCL_AV5 6-A4,7-D4,13-B3 21-B6
SDA_AV5 6-A4,7-D4,13-B3 21-B6
Video Signal GND Shield
DET OUT 1Vp-p±5%
TP6003
from POWER_1
ANT_POW_TU 4-C6
TP6011
TP6012
D6006
1.5SMC6.8A-TRB
for EU
C6021
CEHVKW101M6R3-TRB
Manufacture recommendation B/G,D/K,I : 10µ L.L' :100µ
from IF_UCOM
IF_UCOM[0:100] 1-A1,1-A6,1-D3 2-C1,2-C5,3-C1 4-C5,5-B3,5-D1 7-A3,10-A6,11-D5 12-B6,17-D2,20-A5 21-A1
IF_UCOM[0:100]
L_SYSTEM
46
TP6001
Q6002
RT1N241M-TLB
XD,0XD,0XA,ZD,0ZD
GND
These parts are put near the FE
R6001 10K
R6024 100
R6025 10K
2SA1602A(EF)
C6042
NO USE
NO
M
Crysta
from EMMA2
EMMA2[0:163] 1-A3,1-A4,1-C4 2-A1,2-A4,2-B5 4-C5,5-B1,8-C5 8-D2,10-A6,11-A1 11-C5,13-B2,14-A1 15-A3,16-B1,17-B6 17-D2,19-D1,20-B6 20-C4,20-C5,21-A2 21-B1
The mark found with same parts (s designation.

| ITEM | USED | VACANT |  |  |
|---|---|---|---|---|
|  |  | EU |  | IBD/CHN |
|  |  |  | Reguler |  |
|  |  | AWV2523-/<br>AWV2524-/<br>~~AWV2464-/~~<br>~~AWV2522-~~ | AWV2463- | AWV2465-/AWV2466-/<br>AWV2467- |
| C | 6001-6004, 6006-6028, 6030-6040, 6042, 6043, 6062-6067 | 6001, 6002, 6006, 6007, 6012-6020, 6027, 6030-6040, 6042, 6043, 6062, 6063, 6066, 6067 |  | 6001, 6002, 6006, 6007, 6012-6021, 6027, 6030-6040, 6042, 6043, 6062, 6063, 6066, 6067 |
| CN | 6001 | 6001 |  |  |
| D | 6001, 6006 | 6001 |  | 6001, 6006 |
| F | 6001-6008 | 6003 |  |  |
| IC | 6001 | 6001 |  |  |
| L | 6001-6004 |  |  |  |
| Q | 6001, 6002, 6005-6008 | 6005 |  | 6002, 6005 |
| R | 6001-6028, 6031, 6032, 6038, 6040, 6049-6051 | 6002-6004, 6006, 6008, 6008, 6019, 6021-6023, 6027, 6038, 6040, 6049, 6050 | 6004, 6006, 6008, 6019, 6021-6023, 6027, 6049-6051 | 6002, 6004, 6006, 6008, 6019, 6021-6023, 6027, 6049-6051 |
| U | 6001 |  |  |  |
| X | 6001 | 6001 |  |  |



this block is separated from the FE/IF and put near the regulator bloock
is separated
IF
This capacitor is put near this block
V+5V_ANT
Regulator
the FE
for EU
XD, 0XD, 0XA, ZD, 0ZD
R6028
0
C6027
10/10
DCH1201- -T
XG, XC, ZG
for IBD
R6004
R6006
XG, XC, ZG
NO USE
for IBD
R6007
2.2K
R6005
100
Q6001
2SA1602A(EF)-TLB
GND
FE VIDEO OUT Checkpoint
TP6004
(A_TUNER_V) (AC): 1.0±10%Vpp (DC): 3.9V (Receving Side) AVSW (1μ, 100k)×2
AV_SW[0:100]
AV_SW[0:100] to AV_SW
1-D3, 6-B2, 7-C2
57
A_TUNER_V
BTH1110- -T
L6002
5
NO USE
D6001
UDZS8R8(B)-TRB
DCH1201- -T
C6025
C6026
10/10
0.1/10
GND
C6007
0.1/10
NO USE
R6008
100
XG, XC, ZG
for IBD
for EU
R6020
100
XD, 0XD, 0XA, ZD, 0ZD
HN1C01FU(YGR)-T
Q6007
R6009
180
C6028
10/10
DCH1201- -T
HN1B04FU(YGR)-TRB
Q6006
R6010
2.2K
R6015
10K
R6016
1K
Q6007
HN1C01FU(YGR)-T
IF_UCOM[0:100]
IF_UCOM[0:100] to IF_UCOM
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
4-C5, 5-B3, 5-D1
7-A3, 10-A6, 11-D5
12-B1, 17-D2, 20-A5
21-A1
TP6005
(AIR1_H) (DC) 0~3V
3
AIR1_H
R6011
470
C6008
6800P
R6012
68K
R6013
2.2K
R6014
220
R6017
5.6K
R6018
1.8K
GND
10K
R6026
470
R6032
0
Q6008
R6024
100
2SA1602A(EF)-TLB
NO USE
R6027
0
GND Shield
(4.5~6.5M Signal Line)
AIR_SIF
1-D1
to BOARD_IF_0
CN6001
KM200NA3
GND
NO USE
MSP POWER SUPPLY Data
V+5V_MPX
R6019
47K
L6003
VTF1080- -T
C6030
C6031
C6034
C6035
C6036
C6037
DCH1201- -T
V+8V_MPX
TP6007
C6062
105
100/6.3
ACH1429- -TRB
C6032
10/10
C6033
100P/50
C6012
1000P/50
C6043
56P/50
C6013
56P/50
C6014
5.0P/50
C6015
5.0P/50
Crystal and Capacitor are put near MSP
18.432MHz
X6001
ASS1196- -T
MSP ADRRESS 0x80
IC6001
MSP3417G-TBB
IBD, CHN = MSP3455G-TBB
AVSUP
ANA_IN1+
ANA_IN-
TESTEN
XTAL_IN
XTAL_OUT
TP
D_CTR_OUT1
D_CTR_OUT0
ADR_SEL
STANDBYQ
I2C_CL
I2C_DA
AHVSUP
CAPL_M
SC1_OUT_L
SC1_OUT_R
VREF1
DACM_L
DACM_R
VREF2
RESETQ
C6038
0.1/10
C6016
1000P/50
C6039
10/10
DCH1201- -T
C6066
1.0/10
C6067
1.0/10
R6049
220
R6050
220
AUDIO_L Checkpoint
TP6008
(AIR_L) (ACmax) 2Vrms (DC) 5.0V
AIR_L
AIR_R
1-D1
to BOARD_IF_0
TP6009
(AIR_R) (ACmax) 2Vrms (DC) 5.0V
AUDIO_R Checkpoint
GND
8V Line GND
C6017
100P/50
R6021
C6018
100P/50
C6040
0.1/10
C6020
1000P/50
C6019
1000P/50
GND
R6023
4.7K
EMMA2[0:163]
TP6010
V+3_3V_BE
RST_MSP
113
Q6005
RT3T22M-TLB
GND

| unit: [V] | Min | TYP | Max | Absolute Max |
|---|---|---|---|---|
| 5.0V Line | 4.75 | 5.0 | 5.25 | 6.0 |
| 8.0V Line | 7.60 | 8.00 | 8.70 | 9.0 |

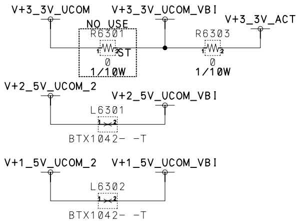
mark found on some component parts should be replaced
me parts (safety regulation authorized) of identical
tion.

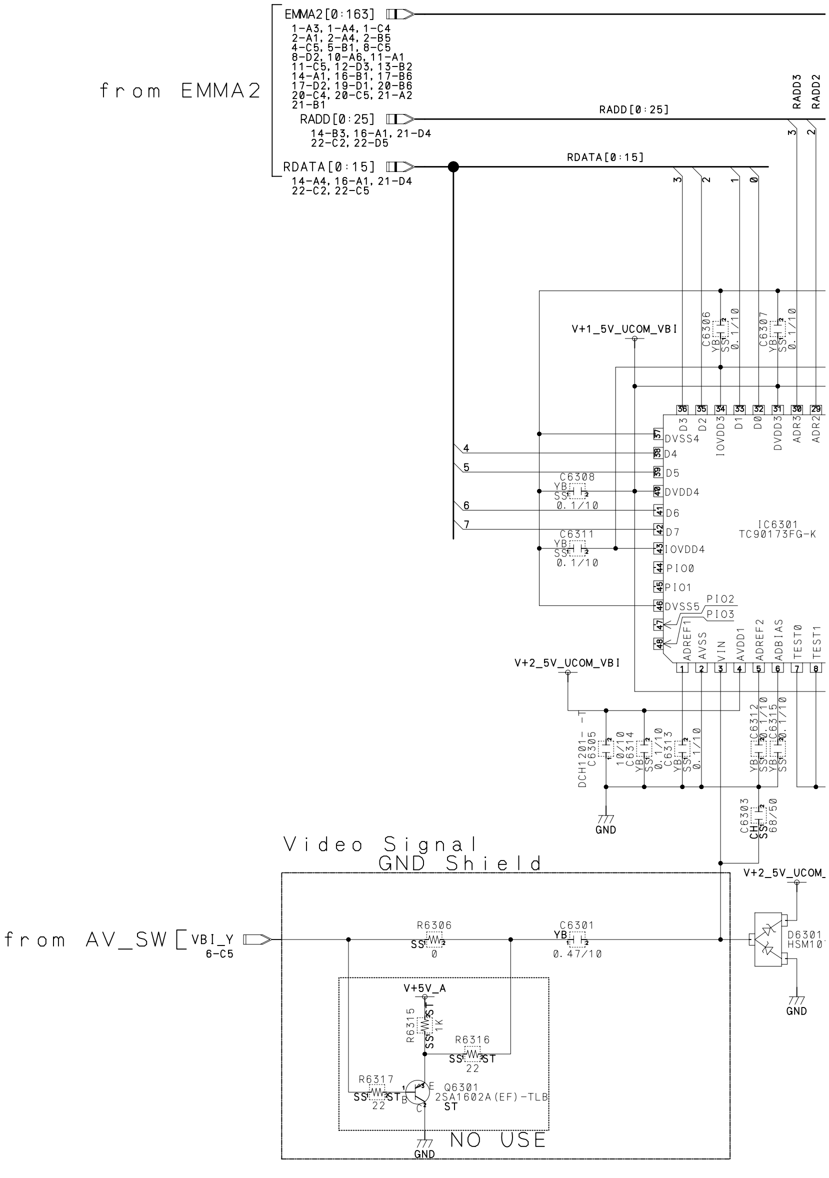
MAIN ASS'Y (EU/IBD/CHN) (12/22)
TUNER BLOCK

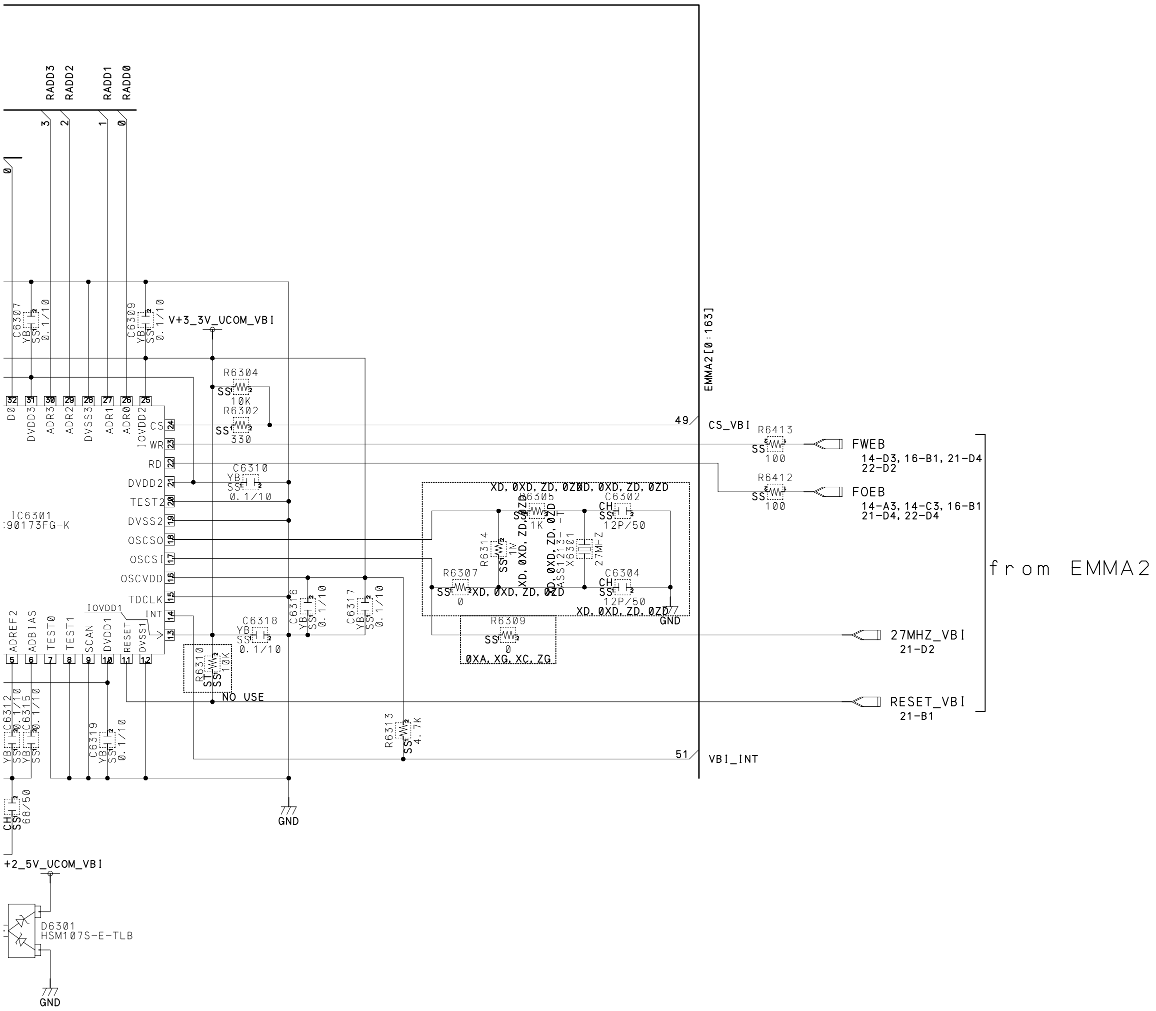
AWV2523- ; AWV2524- ;
AWV2465- ; AWV2465- ;
AWV2466- ; AWV2467-

# 9.13 MAIN ASSY (13/20) [VBI SLICER BLOCK]

| ITEM | USED | VACANT | |
|---|---|---|---|
| | | SD | IBD/CHN |
| | | AWV2523-/AWV2524-/<br>~~AWV2464-/AWV2522-~~ | AWV2463-<br>AWV2465-/AWV2466-/<br>AWV2467- |
| C | 6301-6319 | | 6302, 6304 |
| D | 6301 | | |
| IC | 6301 | | |
| L | 6301, 6302 | | |
| Q | 6301 | 6301 | |
| R | 6301-6307, 6309, 6310,<br>6313-6317, 6412, 6413 | 6301, 6309, 6310,<br>6315-6317 | 6301, 6305, 6307, 6310,<br>6314-6317 |
| X | 6301 | | 6301 |


V+3_3V_UCOM
V+3_3V_UCOM_VBI
V+3_3V_ACT
NO USE
R6301
ST
0
1/10W
R6303
0
1/10W
V+2_5V_UCOM_2
V+2_5V_UCOM_VBI
L6301
BTX1042- -T
V+1_5V_UCOM_2
V+1_5V_UCOM_VBI
L6302
BTX1042- -T


from EMMA2
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
8-D2, 10-A6, 11-A1
11-C5, 12-D3, 13-B2
14-A1, 16-B1, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
RADD[0:25]
14-B3, 16-A1, 21-D4
22-C2, 22-D5
RDATA[0:15]
14-A4, 16-A1, 21-D4
22-C2, 22-C5
RADD[0:25]
RADD3
RADD2
RDATA[0:15]
V+1_5V_UCOM_VBI
C6306 YB SS 0.1/10
C6307 YB SS 0.1/10
C6308 YB SS 0.1/10
C6311 YB SS 0.1/10
IC6301
TC90173FG-K
D3 D2 IOVDD3 D1 D0 DVDD3 ADR3 ADR2
DVSS4 D4 D5 DVDD4 D6 D7 IOVDD4 PIO0 PIO1 DVSS5
PIO2
PIO3
ADREF1 AVSS VIN AVDD1 ADREF2 ADBIAS TEST0 TEST1
V+2_5V_UCOM_VBI
DCH1201- -T C6305 10/10
C6314 YB SS 0.1/10
C6313 YB SS 0.1/10
C6312 YB SS 0.1/10
C6315 YB SS 0.1/10
C6303 CH SS 68/50
GND
Video Signal
GND Shield
from AV_SW
VBI_Y
6-C5
R6306 SS 0
C6301 YB 0.47/10
V+5V_A
R6315 SS ST 1K
R6316 SS ST 22
R6317 SS ST 22
Q6301
2SA1602A(EF)-TLB
ST
E B C
NO USE
GND
V+2_5V_UCOM_
D6301
HSM10
GND

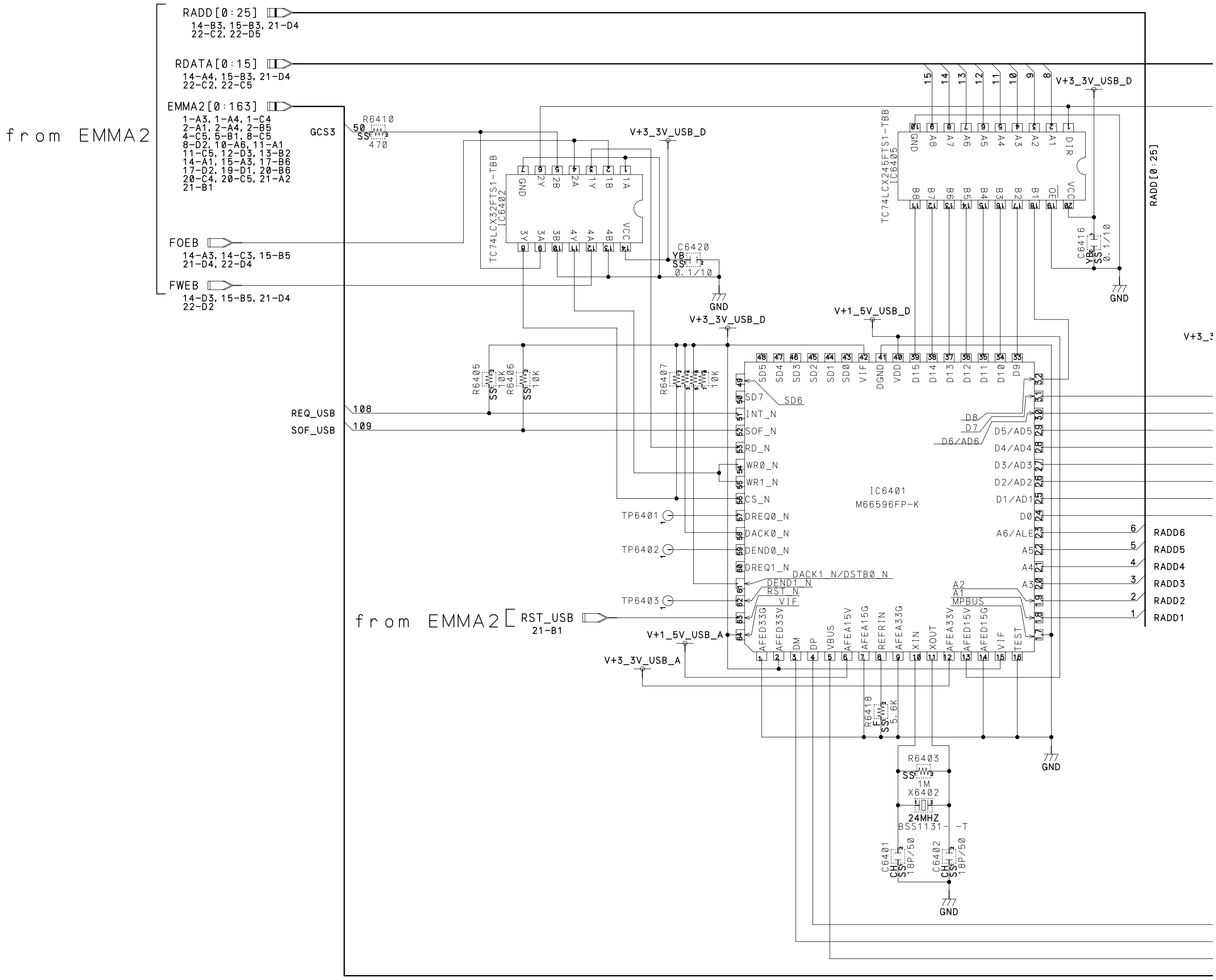

RADD3
RADD2
RADD1
RADD0
EMMA2[0:163]
C6307
YB
SSH
0.1/10
C6309
V+3_3V_UCOM_VBI
R6304
10K
R6302
330
D0
DVDD3
ADR3
ADR2
DVSS3
ADR1
ADR0
IOVDD2
CS
WR
RD
DVDD2
TEST2
DVSS2
OSCSO
OSCSI
OSCVDD
TDCLK
INT
DVSS1
IOVDD1
ADREF2
ADBIAS
TEST0
TEST1
SCAN
DVDD1
RESET
IC6301
:90173FG-K
C6310
0.1/10
C6316
C6317
C6318
R6310
10K
NO USE
R6313
4.7K
C6312
C6315
C6319
68/50
+2_5V_UCOM_VBI
D6301
HSM107S-E-TLB
GND
49
CS_VBI
51
VBI_INT
XD, 0XD, ZD, 0ZD
C6305
1K
R6314
1M
X6301
27MHZ
C6302
12P/50
C6304
12P/50
R6307
0
R6309
0
0XA, XG, XC, ZG
R6413
100
R6412
100
FWEB
14-D3, 16-B1, 21-D4
22-D2
FOEB
14-A3, 14-C3, 16-B1
21-D4, 22-D4
from EMMA2
27MHZ_VBI
21-D2
RESET_VBI
21-B1

MAIN ASS'Y (EU/IBD/CHN) (15/22)
VBI_SLICER BLOCK

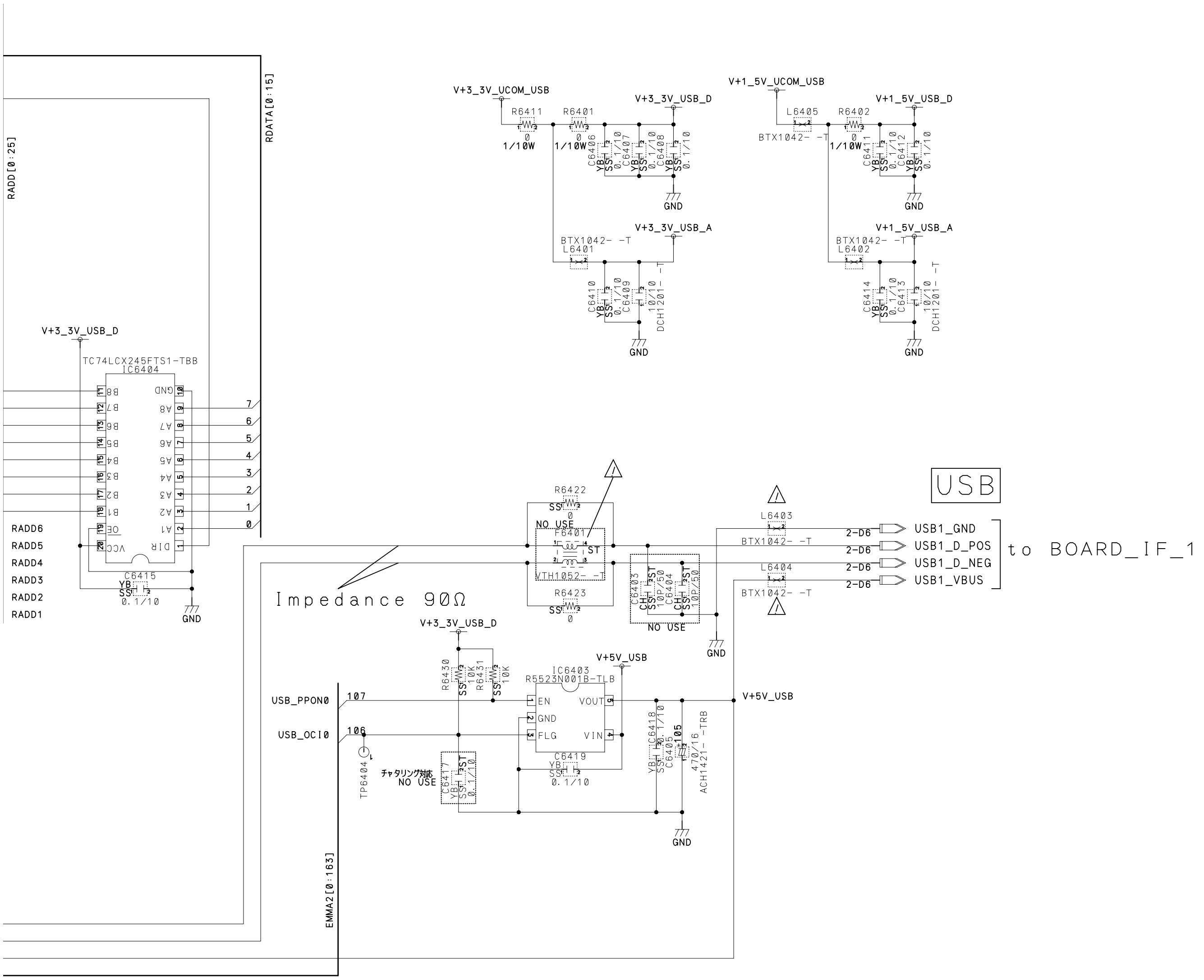
AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

# 9.14 MAIN ASSY (14/20) [USB BLOCK]

| ITEM | USED | VACANT |
|---|---|---|
| | | AWV2523-/<br>AWV2465-/AWV2466-/<br>~~AWV2464-/AWV2522-/~~<br>AWV2467- |
| C | 6401-6420 | 6403, 6404, 6417 |
| F | 6401 | 6401 |
| IC | 6401-6405 | |
| L | 6401-6405 | |
| R | 6401-6403, 6405-6407, 6410, 6411, 6418, 6422, 6423, 6430, 6431 | |
| X | 6402 | |



RADD[0:25]
14-B3, 15-B3, 21-D4
22-C2, 22-D5
RDATA[0:15]
14-A4, 15-B3, 21-D4
22-C2, 22-C5
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
8-D2, 10-A6, 11-A1
11-C5, 12-D3, 13-B2
14-A1, 15-A3, 17-B6
17-D2, 19-D1, 20-B6
20-C4, 20-C5, 21-A2
21-B1
from EMMA2
GCS3
50
R6410
SS
470
FOEB
14-A3, 14-C3, 15-B5
21-D4, 22-D4
FWEB
14-D3, 15-B5, 21-D4
22-D2
TC74LCX32FTS1-TBB
IC6402
GND 2Y 2B 2A 1Y 1B 1A
3Y 3A 3B 4Y 4A 4B VCC
V+3_3V_USB_D
C6420
YB
SS
0.1/10
GND
TC74LCX245FTS1-TBB
IC6405
GND A8 A7 A6 A5 A4 A3 A2 A1 DIR
B8 B7 B6 B5 B4 B3 B2 B1 OE VCC
15 14 13 12 11 10 9 8
V+3_3V_USB_D
C6416
YB
SS
0.1/10
GND
RADD[0:25]
V+1_5V_USB_D
V+3_3V_USB_D
V+3_3
R6405
SS
10K
R6406
SS
10K
R6407
10K
REQ_USB
108
SOF_USB
109
SD5 SD4 SD3 SD2 SD1 SD0 VIF DGND VDD D15 D14 D13 D12 D11 D10 D9
SD7
SD6
INT_N
SOF_N
RD_N
WR0_N
WR1_N
CS_N
DREQ0_N
DACK0_N
DEND0_N
DREQ1_N
DACK1_N/DSTB0_N
DEND1_N
RST_N
VIF
IC6401
M66596FP-K
D8
D7
D6/AD6
D5/AD5
D4/AD4
D3/AD3
D2/AD2
D1/AD1
D0
A6/ALE
A5
A4
A3
A2
A1
MPBUS
TEST
TP6401
TP6402
TP6403
RADD6
RADD5
RADD4
RADD3
RADD2
RADD1
6 5 4 3 2 1
from EMMA2
RST_USB
21-B1
V+1_5V_USB_A
V+3_3V_USB_A
AFED33G AFED33V DM DP VBUS AFEA15V AFEA15G REFRIN AFEA33G XIN XOUT AFEA33V AFED15V AFED15G VIF TEST
R6418
F
SS
5.6K
R6403
SS
1M
X6402
24MHZ
BSS1131- -T
C6401
CH
SS
18P/50
C6402
CH
SS
18P/50
GND
GND


RADD[0:25]
RDATA[0:15]
V+3_3V_UCOM_USB
R6411
0
1/10W
R6401
0
1/10W
V+3_3V_USB_D
C6406 YB SS 0.1/10
C6407 YB SS 0.1/10
C6408 YB SS 0.1/10
GND
V+3_3V_USB_A
BTX1042- -T
L6401
C6410 YB SS 0.1/10
C6409 10/10 DCH1201- -T
GND
V+1_5V_UCOM_USB
L6405
BTX1042- -T
R6402
0
1/10W
V+1_5V_USB_D
C6411 YB SS 0.1/10
C6412 YB SS 0.1/10
GND
V+1_5V_USB_A
BTX1042- -T
L6402
C6414 YB SS 0.1/10
C6413 10/10 DCH1201- -T
GND
V+3_3V_USB_D
TC74LCX245FTS1-TBB
IC6404
B8 B7 B6 B5 B4 B3 B2 B1 OE VCC
GND A8 A7 A6 A5 A4 A3 A2 A1 DIR
7 6 5 4 3 2 1 0
RADD6
RADD5
RADD4
RADD3
RADD2
RADD1
C6415
YB
SS
0.1/10
GND
R6422
SS
0
NO USE
F6401
ST
VTH1052- -T
R6423
SS
0
Impedance 90Ω
C6403 CH SS ST 10P/50
C6404 CH SS ST 10P/50
NO USE
GND
L6403
BTX1042- -T
L6404
BTX1042- -T
2-D6
USB1_GND
USB1_D_POS
USB1_D_NEG
USB1_VBUS
USB
to BOARD_IF_1
V+3_3V_USB_D
R6430 SS 10K
R6431 SS 10K
V+5V_USB
IC6403
R5523N001B-TLB
EN
GND
FLG
VOUT
VIN
USB_PPON0
107
USB_OCI0
106
TP6404
チャタリング対策
NO USE
C6417 YB SS ST 0.1/10
C6419
YB
SS
0.1/10
C6418 YB SS 0.1/10
C6405 105 470/16 ACH1421- -TRB
GND
V+5V_USB
EMMA2[0:163]

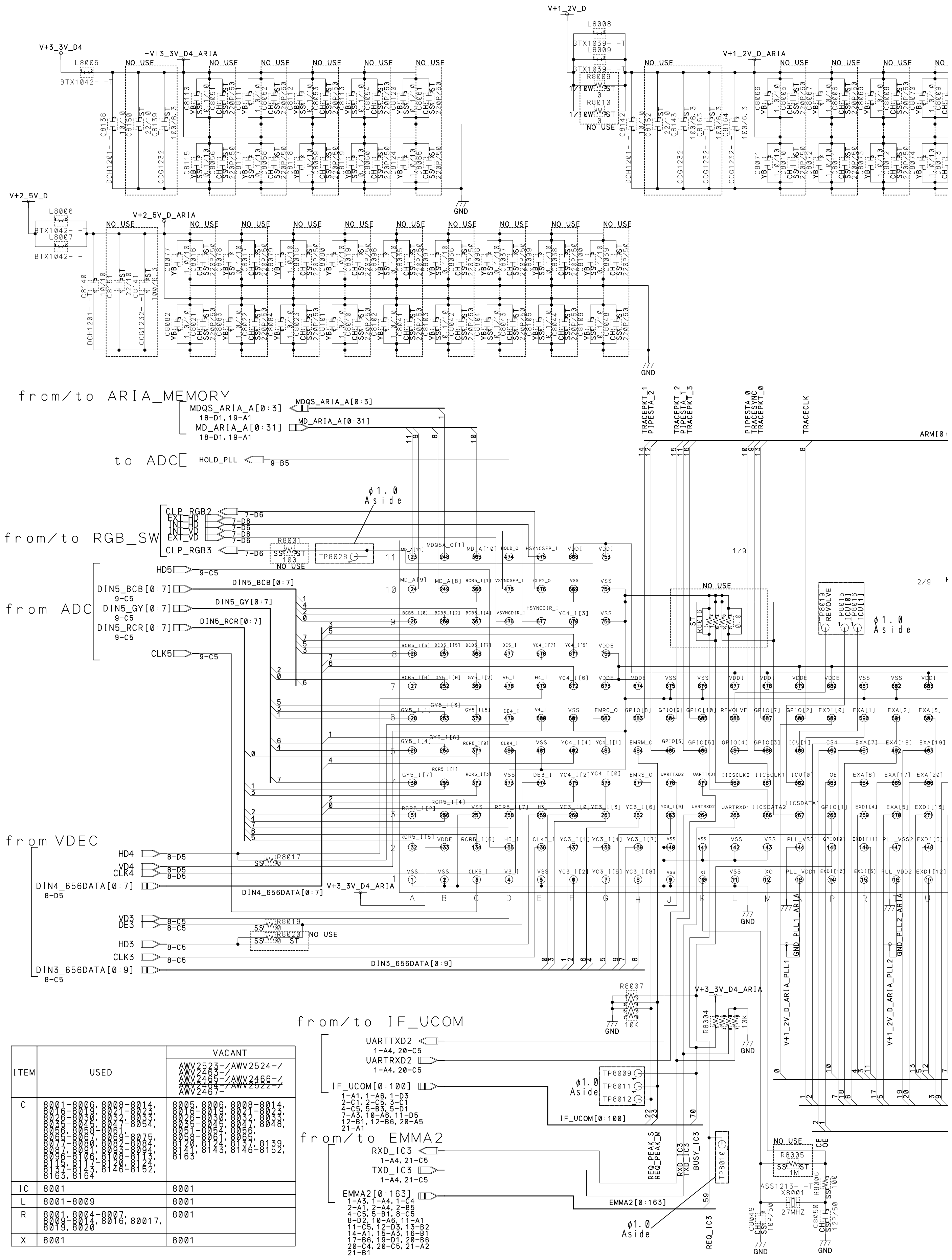
Except for Regular
(for XD, XG, XC, ~~ZD, 0ZD,~~ ZG)

MAIN ASS'Y (EU/IBD/CHN) (16/22)
USB BLOCK

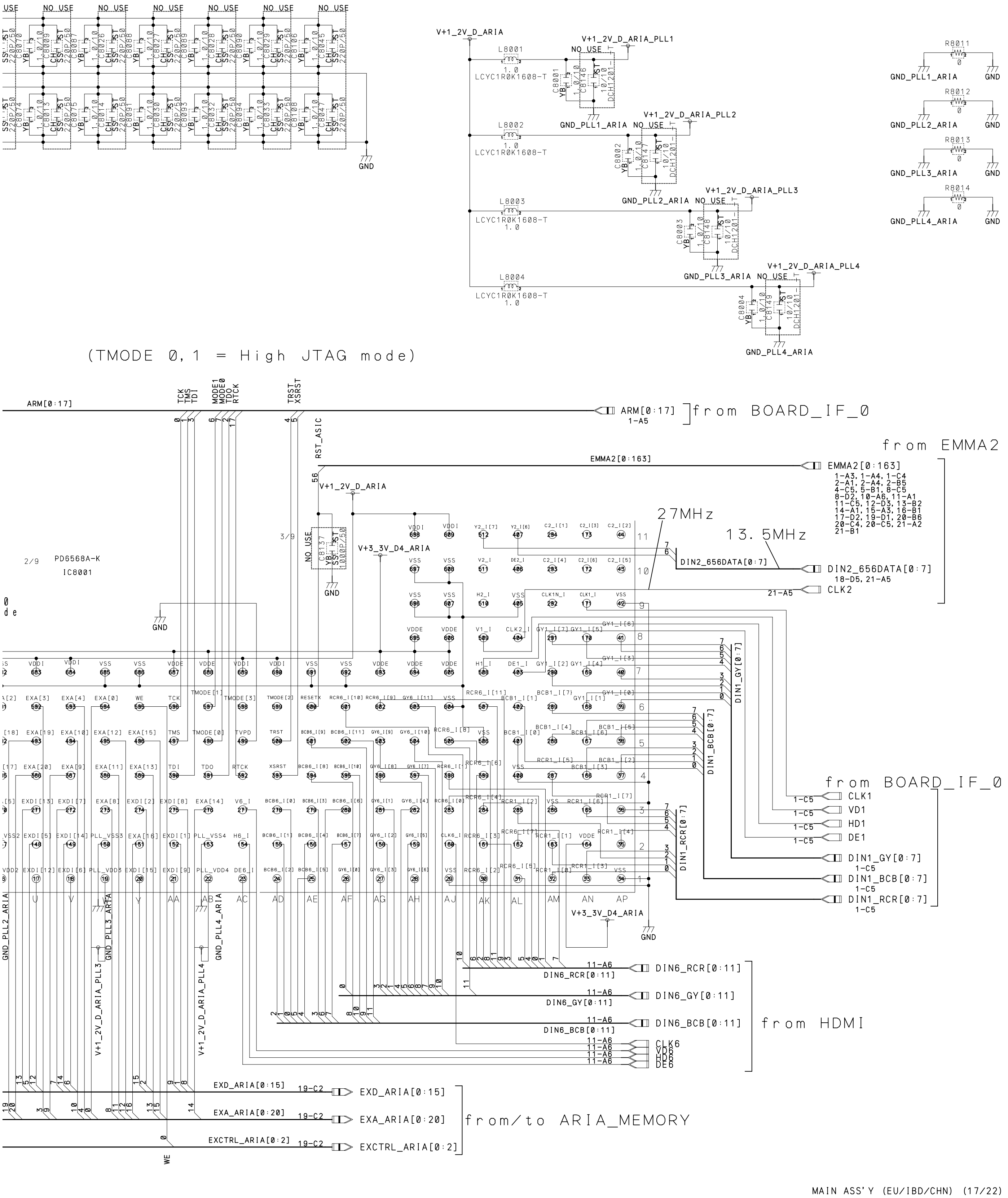
AWV2523- ; AWV2465- ;
AWV2466- ; AWV2467-

The ⚠ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.

# 9.15 MAIN ASSY (15/20) [ARIA 0 BLOCK]


V+3_3V_D4
-VI3_3V_D4_ARIA
L8005
BTX1042- -T
NO USE
V+2_5V_D
L8006
L8007
BTX1042- -T
V+2_5V_D_ARIA
V+1_2V_D
L8008
BTX1039- -T
L8009
R8009
R8010
1/10W
V+1_2V_D_ARIA
DCH1201- -T
CCG1232- -T
GND
from/to ARIA_MEMORY
MDQS_ARIA_A[0:3]
18-D1, 19-A1
MD_ARIA_A[0:31]
to ADC
HOLD_PLL
9-B5
from/to RGB_SW
CLP_RGB2
EXT_HD
INT_HD
INT_VD
EXT_VD
CLP_RGB3
7-D6
R8001
100
TP8028
ϕ1.0
A side
from ADC
HD5
DIN5_BCB[0:7]
DIN5_GY[0:7]
DIN5_RCR[0:7]
CLK5
9-C5
from VDEC
HD4
VD4
CLK4
8-D5
DIN4_656DATA[0:7]
R8017
VD3
DE3
HD3
CLK3
8-C5
R8019
R8020
DIN3_656DATA[0:9]
V+3_3V_D4_ARIA
TRACEPKT_1
PIPESTA_2
TRACEPKT_2
PIPESTA_1
TRACEPKT_3
PIPESTA_0
TRACESYNC
TRACEPKT_0
TRACECLK
ARM[0:
1/9
2/9
R8016
TP8019
REVOLVE
TP8015
ICU[0]
TP8016
ICU[1]
V+1_2V_D_ARIA_PLL1
V+1_2V_D_ARIA_PLL2
GND_PLL1_ARIA
GND_PLL2_ARIA
R8007
10K
R8004
from/to IF_UCOM
UARTTXD2
UARTRXD2
1-A4, 20-C5
IF_UCOM[0:100]
TP8009
TP8011
TP8012
from/to EMMA2
RXD_IC3
TXD_IC3
1-A4, 21-C5
EMMA2[0:163]
REQ_PEAK_S
REQ_PEAK_M
RXD_IC3
TXD_IC3
BUSY_IC3
TP8010
REQ_IC3
R8005
1M
R8006
100
ASS1213- -T
X8001
27MHZ
C8049
10P/50
C8050
12P/50
CE
OE

| ITEM | USED | VACANT |
|---|---|---|
| | | AWV2523-/AWV2524-/<br>AWV2463-/<br>AWV2465-/AWV2466-/<br>~~AWV2464-/AWV2522-/~~<br>AWV2467- |
| C | 8001-8006, 8008-8014, 8016-8019, 8021-8023, 8026-8030, 8032, 8033, 8035-8045, 8047-8054, 8056, 8058-8061, 8065-8067, 8069-8075, 8077-8080, 8082-8084, 8087, 8091, 8093-8094, 8096-8106, 8108-8113, 8115, 8117-8120, 8124, 8137-8143, 8146-8152, 8163, 8164 | 8005, 8006, 8008-8014, 8016-8019, 8021-8023, 8026-8030, 8032, 8033, 8035-8045, 8047, 8048, 8051-8054, 8056, 8058-8061, 8065, 8120, 8124, 8137, 8139, 8141, 8143, 8146-8152, 8163 |
| IC | 8001 | 8001 |
| L | 8001-8009 | 8001 |
| R | 8001, 8004-8007, 8009-8014, 8016, 80017, 8019, 8020 | 8001 |
| X | 8001 | 8001 |

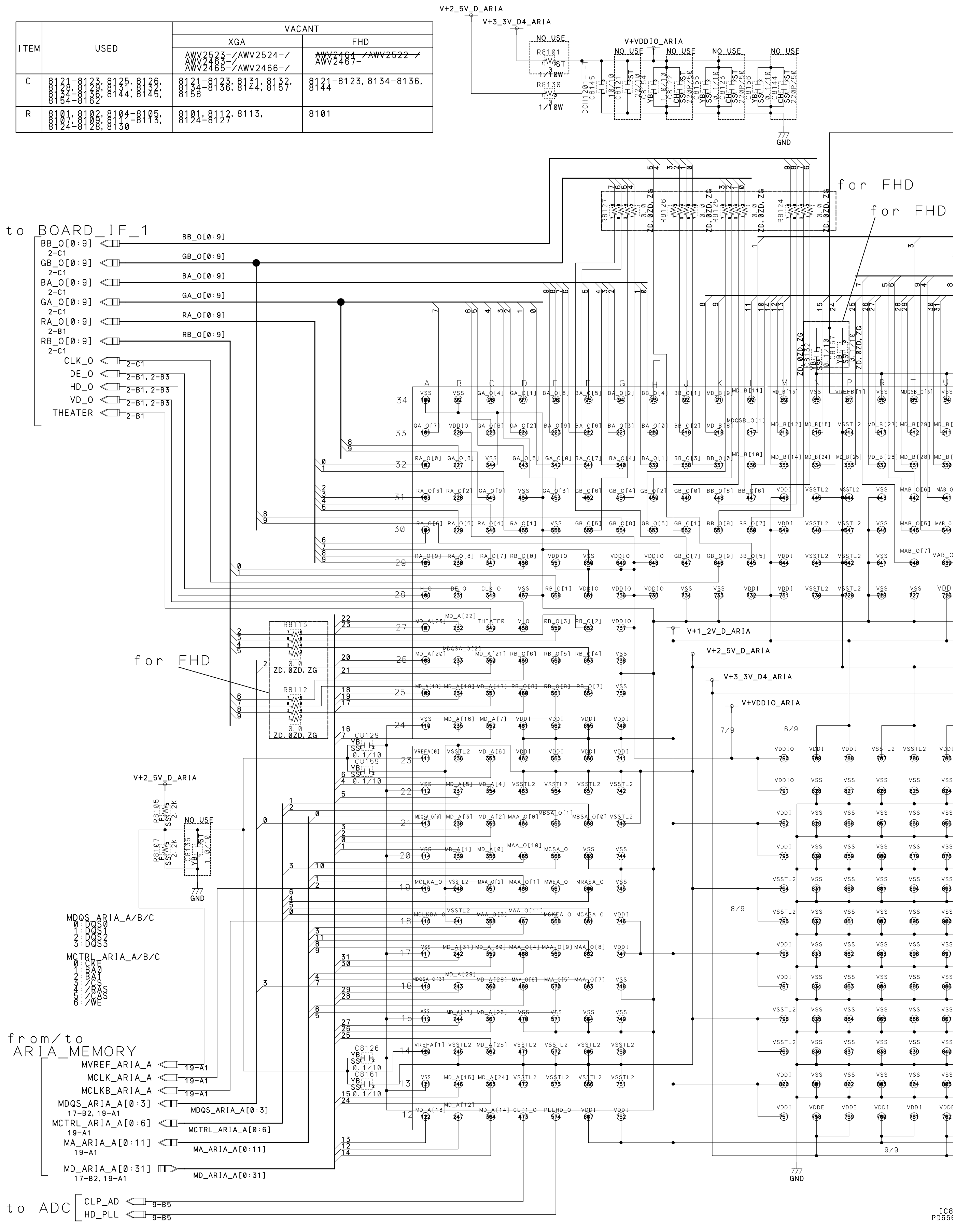

NO USE
V+1_2V_D_ARIA
V+1_2V_D_ARIA_PLL1
V+1_2V_D_ARIA_PLL2
V+1_2V_D_ARIA_PLL3
V+1_2V_D_ARIA_PLL4
L8001
L8002
L8003
L8004
LCYC1R0K1608-T
1.0
C8001
C8002
C8003
C8004
DCH1201
GND_PLL1_ARIA
GND_PLL2_ARIA
GND_PLL3_ARIA
GND_PLL4_ARIA
R8011
R8012
R8013
R8014
GND
(TMODE 0,1 = High JTAG mode)
ARM[0:17]
ARM[0:17] 1-A5
from BOARD_IF_0
TCK
TMS
TDI
MODE1
MODE0
TDO
RTCK
TRST
XSRST
RST_ASIC
from EMMA2
EMMA2[0:163]
EMMA2[0:163] 1-A3, 1-A4, 1-C4 2-A1, 2-A4, 2-B5 4-C5, 5-B1, 8-C5 8-D2, 10-A6, 11-A1 11-C5, 12-D3, 13-B2 14-A1, 15-A3, 16-B1 17-D2, 19-D1, 20-B6 20-C4, 20-C5, 21-A2 21-B1
V+3_3V_D4_ARIA
C8137 1000P/50
27MHz
13.5MHz
DIN2_656DATA[0:7]
DIN2_656DATA[0:7] 18-D5, 21-A5
21-A5
CLK2
PD6568A-K
IC8001
2/9
3/9
DIN1_GY[0:7]
DIN1_BCB[0:7]
DIN1_RCR[0:7]
from BOARD_IF_0
1-C5
CLK1
VD1
HD1
DE1
DIN1_GY[0:7] 1-C5
DIN1_BCB[0:7] 1-C5
DIN1_RCR[0:7] 1-C5
U V W Y AA AB AC AD AE AF AG AH AJ AK AL AM AN AP
GND_PLL2_ARIA
GND_PLL3_ARIA
GND_PLL4_ARIA
V+1_2V_D_ARIA_PLL3
V+1_2V_D_ARIA_PLL4
11-A6
DIN6_RCR[0:11]
DIN6_GY[0:11]
DIN6_BCB[0:11]
from HDMI
CLK6
VD6
HD6
DE6
EXD_ARIA[0:15]
EXA_ARIA[0:20]
EXCTRL_ARIA[0:2]
19-C2
from/to ARIA_MEMORY
WE

MAIN ASS'Y (EU/IBD/CHN) (17/22)
ARIA_0 BLOCK

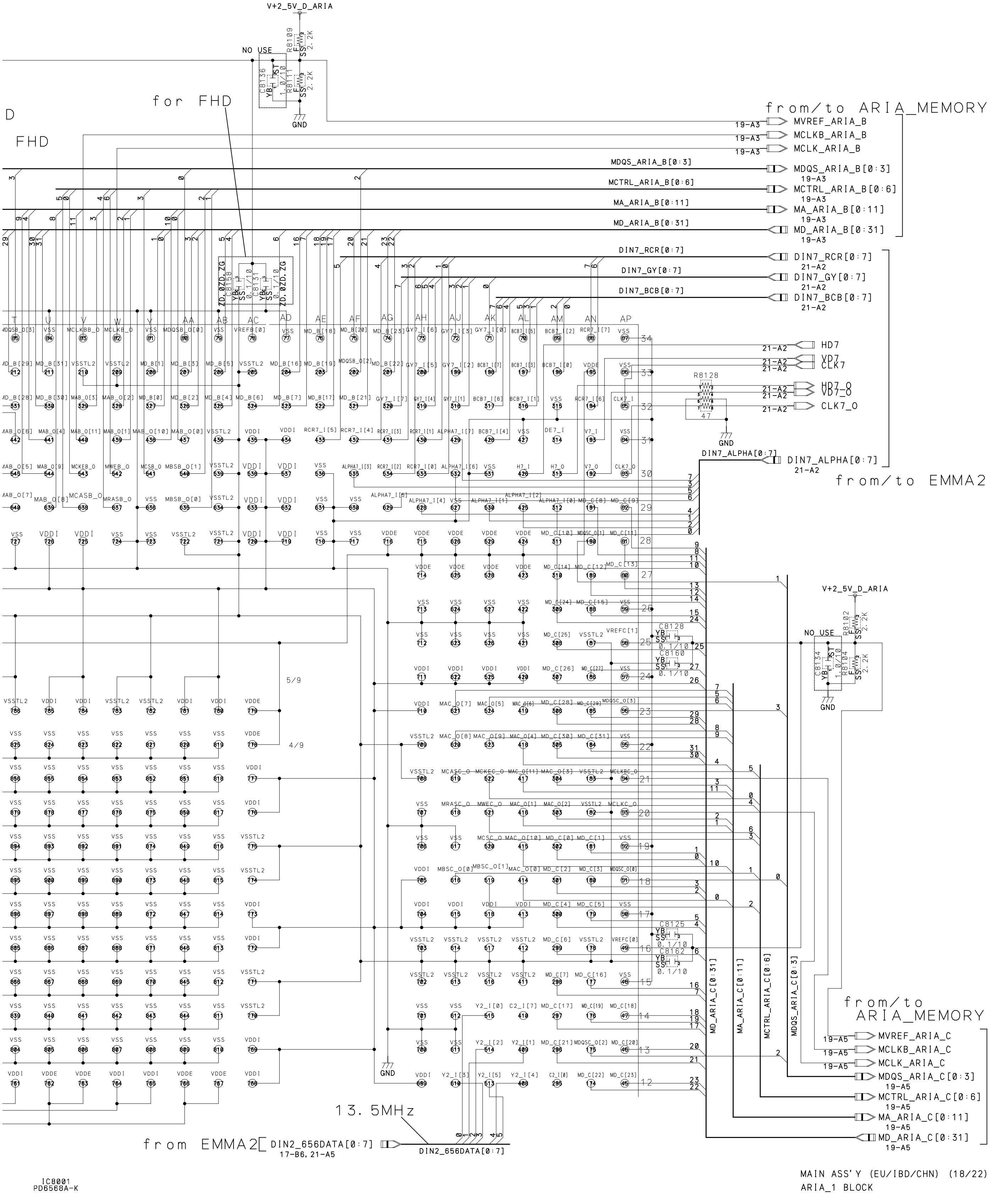
AWV2523- : AWV2524- :
AWV2465- : AWV2465- :
AWV2466- : AWV2467-

# 9.16 MAIN ASSY (16/20) [ARIA 1 BLOCK]

| ITEM | USED | VACANT | |
|---|---|---|---|
| | | XGA | FHD |
| | | AWV2523-/AWV2524-/ AWV2463-/ AWV2465-/AWV2466-/ | ~~AWV2464-/AWV2522-/~~ AWV2467- |
| C | 8121-8123, 8125, 8126, 8128, 8129, 8131, 8132, 8134-8136, 8144, 8145, 8154-8162 | 8121-8123, 8131, 8132, 8134-8136, 8144, 8157 8158 | 8121-8123, 8134-8136, 8144 |
| R | 8101, 8102, 8104-8105, 8107, 8109, 8111-8113, 8124-8128, 8130 | 8101, 8112, 8113, 8124-8127 | 8101 |



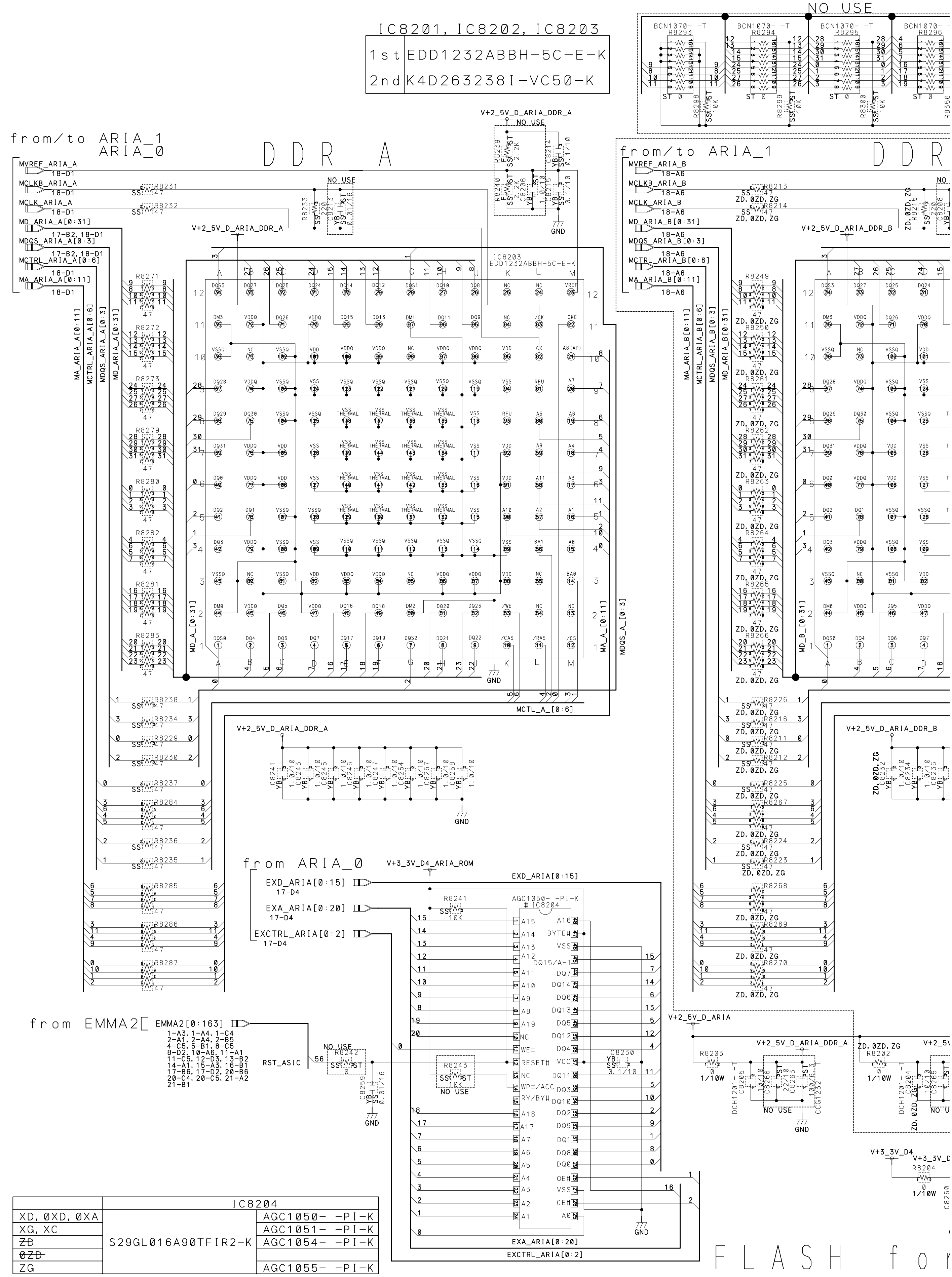
V+2_5V_D_ARIA
V+3_3V_D4_ARIA
NO USE
R8101
1/10W
R8130
1/10W
V+VDDIO_ARIA
DCH1201-
C8145
C8121
C8154
C8122
C8155
C8123
C8156
C8144
GND
for FHD
for FHD
R8127
R8126
R8125
R8124
ZD, 0ZD, ZG
to BOARD_IF_1
BB_O[0:9] 2-C1
GB_O[0:9] 2-C1
BA_O[0:9] 2-C1
GA_O[0:9] 2-C1
RA_O[0:9] 2-B1
RB_O[0:9] 2-C1
CLK_O 2-C1
DE_O 2-B1, 2-B3
HD_O 2-B1, 2-B3
VD_O 2-B1, 2-B3
THEATER 2-B1
for FHD
R8113
R8112
ZD, 0ZD, ZG
C8129
C8159
C8126
C8161
YB
SS
0.1/10
V+2_5V_D_ARIA
R8105
R8107
2.2K
NO USE
C8135
GND
V+1_2V_D_ARIA
V+2_5V_D_ARIA
V+3_3V_D4_ARIA
V+VDDIO_ARIA
7/9
6/9
8/9
9/9
GND
MDQS_ARIA_A/B/C
0:DQS0
1:DQS1
2:DQS2
3:DQS3
MCTRL_ARIA_A/B/C
0:CKE
1:BA0
2:BA1
3:/CS
4:/RAS
5:/CAS
6:/WE
from/to ARIA_MEMORY
MVREF_ARIA_A 19-A1
MCLK_ARIA_A 19-A1
MCLKB_ARIA_A 19-A1
MDQS_ARIA_A[0:3] 17-B2, 19-A1
MCTRL_ARIA_A[0:6] 19-A1
MA_ARIA_A[0:11] 19-A1
MD_ARIA_A[0:31] 17-B2, 19-A1
to ADC
CLP_AD 9-B5
HD_PLL 9-B5
IC8
PD656
A B C D E F G H J K L M N P R T U
34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12
VSS
VDDI
VDDIO
VSSTL2
VREFA[0]
VREFA[1]
VREFB[1]
VDDE
H_O
DE_O
CLK_O
THEATER
V_O
CLP1_O
PLLHD_O
MCLKA_O
MCLKBA_O
MCSA_O
MWEA_O
MRASA_O
MCKEA_O
MBSA_O[1]
MBSA_O[0]
MDQSA_O[0]
MDQSA_O[2]
MDQSA_O[3]
MDQSB_O[1]


V+2_5V_D_ARIA
NO USE
R8109
C8136
R8111
GND
for FHD
D
FHD
from/to ARIA_MEMORY
19-A3
MVREF_ARIA_B
MCLKB_ARIA_B
MCLK_ARIA_B
MDQS_ARIA_B[0:3]
MCTRL_ARIA_B[0:6]
MA_ARIA_B[0:11]
MD_ARIA_B[0:31]
DIN7_RCR[0:7]
DIN7_GY[0:7]
DIN7_BCB[0:7]
21-A2
C8131
HD7
VD7
CLK7
R8128
47
HD7_O
VD7_O
CLK7_O
DIN7_ALPHA[0:7]
from/to EMMA2
V+2_5V_D_ARIA
NO USE
R8102
C8134
R8104
GND
C8128
C8160
C8125
C8162
0.1/10
MD_ARIA_C[0:31]
MA_ARIA_C[0:11]
MCTRL_ARIA_C[0:6]
MDQS_ARIA_C[0:3]
from/to ARIA_MEMORY
19-A5
MVREF_ARIA_C
MCLKB_ARIA_C
MCLK_ARIA_C
MDQS_ARIA_C[0:3]
MCTRL_ARIA_C[0:6]
MA_ARIA_C[0:11]
MD_ARIA_C[0:31]
5/9
4/9
GND
13.5MHz
from EMMA2
DIN2_656DATA[0:7]
17-B6, 21-A5
IC8001
PD6568A-K

MAIN ASS'Y (EU/IBD/CHN) (18/22)
ARIA_1 BLOCK

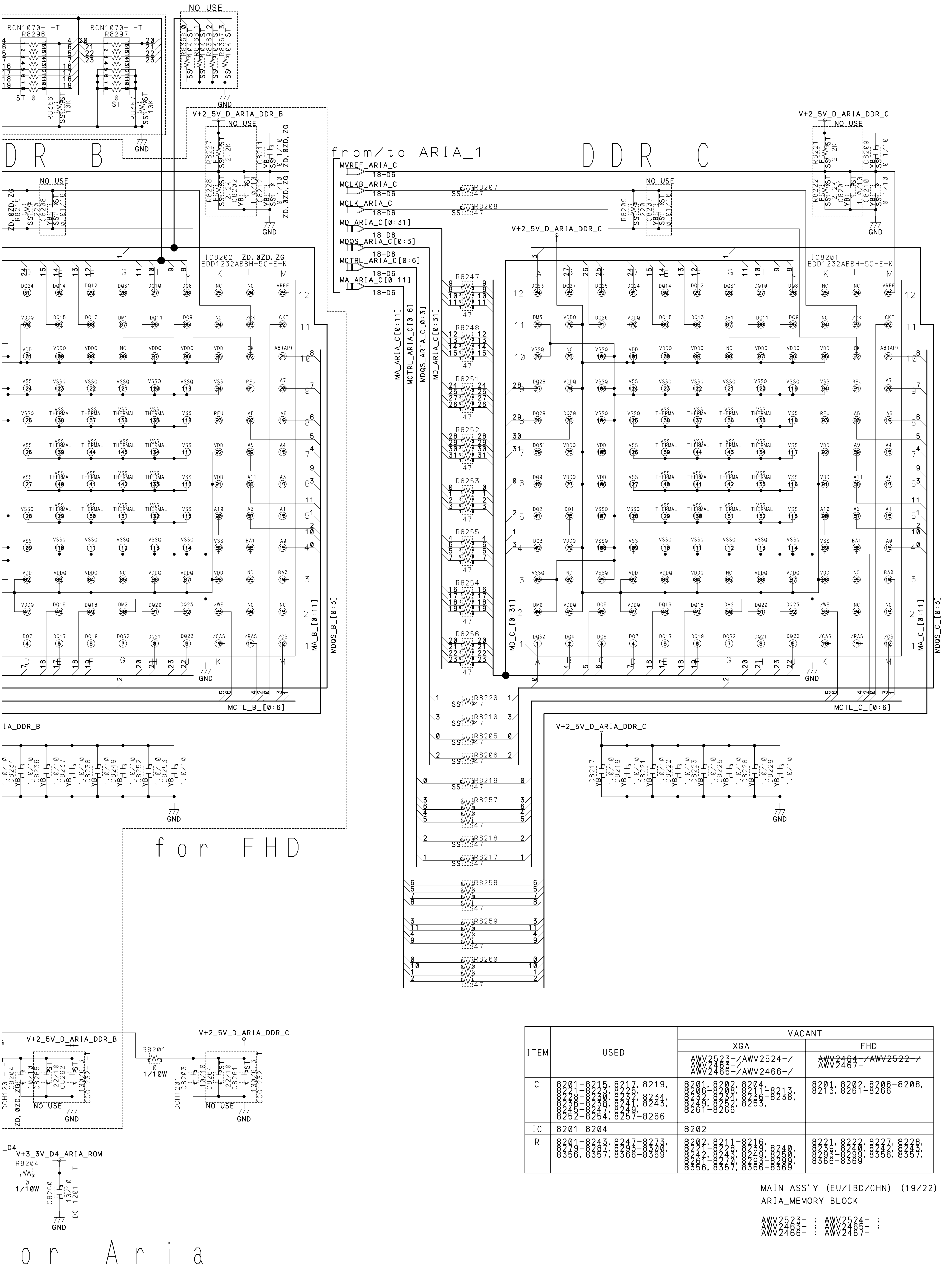
AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

# 9.17 MAIN ASSY (17/20) [ARIA MEMORY BLOCK]


NO USE
BCN1070- -T
R8293
R8294
R8295
R8296
R8298
R8299
R8300
R8356
from/to ARIA_1 ARIA_0
DDR_A
from/to ARIA_1
DDR
MVREF_ARIA_A
MCLKB_ARIA_A
MCLK_ARIA_A
MD_ARIA_A[0:31]
MDQS_ARIA_A[0:3]
MCTRL_ARIA_A[0:6]
MA_ARIA_A[0:11]
18-D1
17-B2, 18-D1
V+2_5V_D_ARIA_DDR_A
IC8203
EDD1232ABBH-5C-E-K
MD_A_[0:31]
MA_A_[0:11]
MDQS_A_[0:3]
MCTL_A_[0:6]
GND
MVREF_ARIA_B
MCLKB_ARIA_B
MCLK_ARIA_B
MD_ARIA_B[0:31]
MDQS_ARIA_B[0:3]
MCTRL_ARIA_B[0:6]
MA_ARIA_B[0:11]
18-A6
V+2_5V_D_ARIA_DDR_B
MD_B_[0:31]
ZD, 0ZD, ZG
from ARIA_0
EXD_ARIA[0:15]
EXA_ARIA[0:20]
EXCTRL_ARIA[0:2]
17-D4
V+3_3V_D4_ARIA_ROM
AGC1050- -PI-K
IC8204
R8241 10K
R8243 10K NO USE
from EMMA2
EMMA2[0:163]
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
8-D2, 10-A6, 11-A1
11-C5, 12-D3, 13-B2
14-A1, 15-A3, 16-B1
17-B6, 17-D2, 20-B6
20-C4, 20-C5, 21-A2
21-B1
RST_ASIC
R8242 NO USE
C8259
C8230
V+2_5V_D_ARIA
R8203
R8202
R8204
DCH1201- -T
C8205
C8206
C8263
CCG1232- -T
V+3_3V_D4
FLASH for

| IC8201, IC8202, IC8203 | |
|---|---|
| 1st | EDD1232ABBH-5C-E-K |
| 2nd | K4D263238I-VC50-K |

| | IC8204 | |
|---|---|---|
| XD, 0XD, 0XA | S29GL016A90TFIR2-K | AGC1050- -PI-K |
| XG, XC | | AGC1051- -PI-K |
| ~~ZD~~ | | AGC1054- -PI-K |
| ~~0ZD~~ | | |
| ZG | | AGC1055- -PI-K |


NO USE
BCN1070- -T
R8296
R8297
R8356
R8357
ST 0
10K
GND
V+2_5V_D_ARIA_DDR_B
V+2_5V_D_ARIA_DDR_C
D R B
D D R C
from/to ARIA_1
MVREF_ARIA_C
MCLKB_ARIA_C
MCLK_ARIA_C
MD_ARIA_C[0:31]
MDQS_ARIA_C[0:3]
MCTRL_ARIA_C[0:6]
MA_ARIA_C[0:11]
18-D6
R8207
R8208
R8209
R8215
R8221
R8222
R8227
R8228
C8201
C8202
C8209
C8211
2.2K
ZD,0ZD,ZG
IC8202 ZD,0ZD,ZG
EDD1232ABBH-5C-E-K
IC8201
EDD1232ABBH-5C-E-K
R8247
R8248
R8251
R8252
R8253
R8255
R8254
R8256
47
MA_B_[0:11]
MDQS_B_[0:3]
MCTL_B_[0:6]
MD_C_[0:31]
MA_C_[0:11]
MDQS_C_[0:3]
MCTL_C_[0:6]
R8220
R8210
R8205
R8206
R8219
R8257
R8218
R8217
R8258
R8259
R8260
IA_DDR_B
C8234
C8236
C8237
C8238
C8249
C8252
C8253
1.0/10
C8217
C8219
C8221
C8222
C8223
C8225
C8228
C8229
for FHD
R8201
1/10W
C8204
C8265
C8262
C8203
C8264
C8261
DCH1201- -T
CCG1252-
22/10
10/10
NO USE
_D4
V+3_3V_D4_ARIA_ROM
R8204
C8260
or Aria

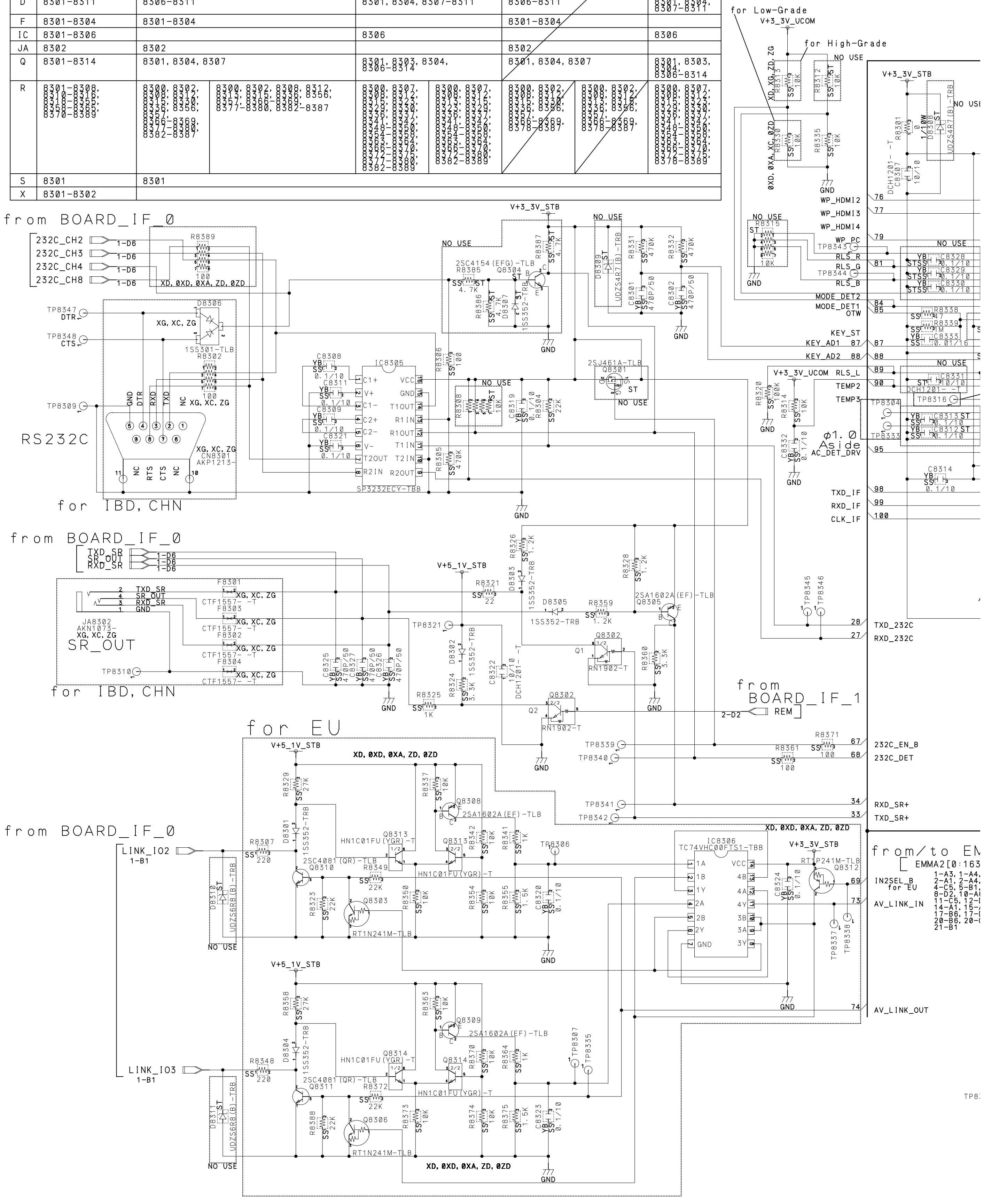
| ITEM | USED | VACANT | |
|---|---|---|---|
| | | XGA | FHD |
| | | AWV2523-/AWV2524-/<br>AWV2463-/<br>AWV2465-/AWV2466-/ | ~~AWV2464-/AWV2522-/~~<br>AWV2467- |
| C | 8201-8215, 8217, 8219, 8221-8223, 8225, 8228-8230, 8232, 8234, 8236-8238, 8241, 8243, 8245-8247, 8249, 8252-8254, 8257-8266 | 8201, 8202, 8204, 8206-8208, 8211-8213, 8232, 8234, 8236-8238, 8249, 8252, 8253, 8261-8266 | 8201, 8202, 8206-8208, 8213, 8261-8266 |
| IC | 8201-8204 | 8202 | |
| R | 8201-8243, 8247-8273, 8279-8287, 8293-8300, 8356, 8357, 8366-8369 | 8202, 8211-8216, 8221-8228, 8239, 8240, 8242, 8243, 8249, 8250, 8261-8270, 8293-8299, 8356, 8357, 8366-8369 | 8221, 8222, 8227, 8228, 8239, 8240, 8242, 8243, 8293-8299, 8356, 8357, 8366-8369 |

MAIN ASS'Y (EU/IBD/CHN) (19/22)
ARIA_MEMORY BLOCK

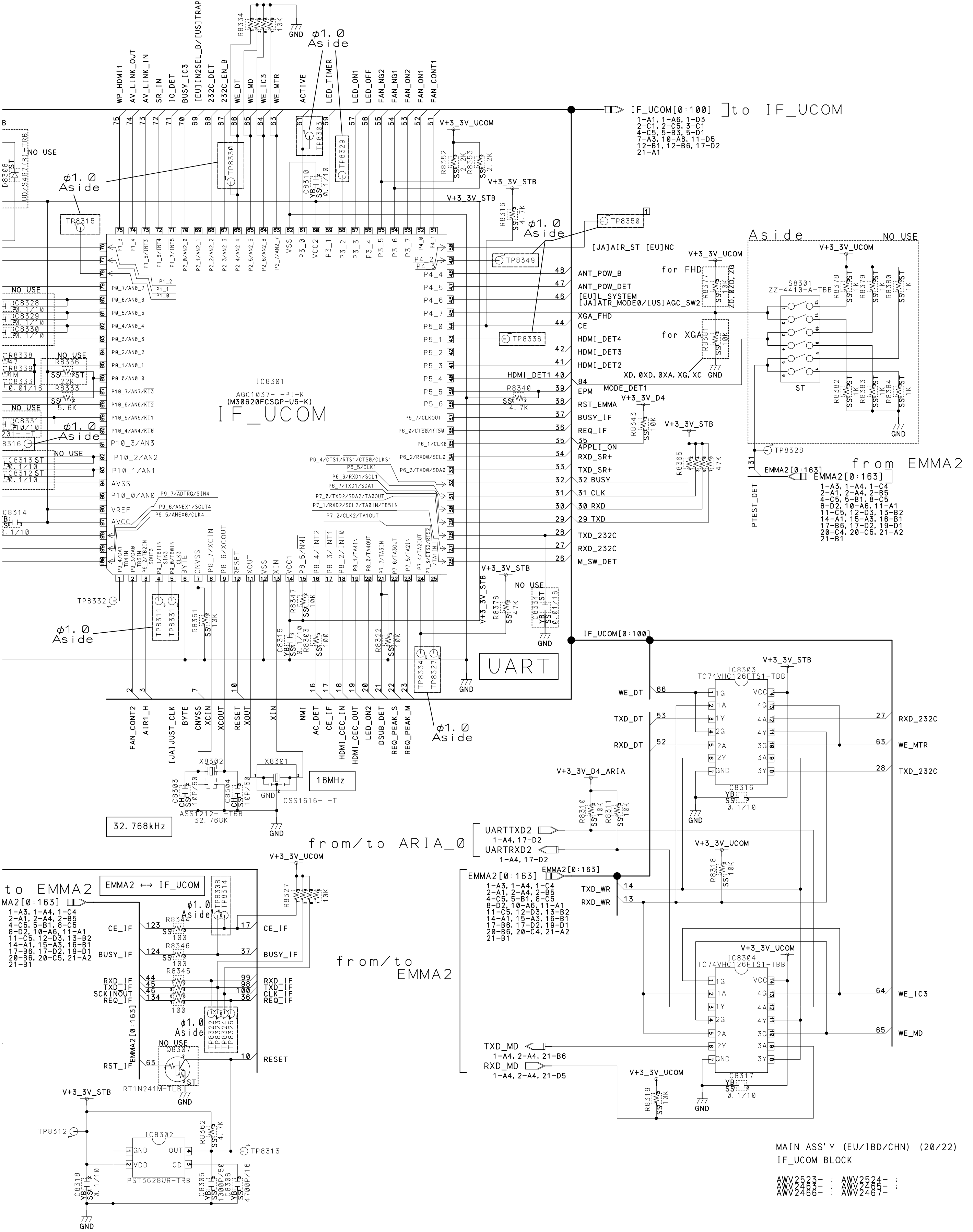
AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

# 9.18 MAIN ASSY (18/20) [IF UCOM BLOCK]

| ITEM | USED | VACANT | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | AWV2523- | AWV2524- | AWV2463- | AWV2465- | AWV2466- | AWV2464- | AWV2522- | AWV2467- |
| C | 8301-8334 | 8312, 8313, 8328-8331, 8334 | | | 8312, 8313, 8320, 8323, 8324, 8328-8331, 8334 | | 8312, 8313, 8328-8331 8334 | | 8312, 8313, 8320, 8323, 8324, 8328-8331, 8334 |
| CN | 8301 | 8301 | | | | | 8301 | | |
| D | 8301-8311 | 8306-8311 | | | 8301, 8304, 8307-8311 | | 8306-8311 | | 8301, 8304, 8307-8311 |
| F | 8301-8304 | 8301-8304 | | | | | 8301-8304 | | |
| IC | 8301-8306 | | | | 8306 | | | | 8306 |
| JA | 8302 | 8302 | | | | | 8302 | | |
| Q | 8301-8314 | 8301, 8304, 8307 | | | 8301, 8303, 8304, 8306-8314 | | 8301, 8304, 8307 | | 8301, 8303, 8304, 8306-8314 |
| R | 8301-8308, 8310-8316, 8318-8355, 8358-8365, 8370-8389 | 8300, 8302, 8308, 8312, 8315, 8330, 8336, 8356, 8357, 8366-8369, 8377-8380, 8382-8387 | 8300, 8302, 8308, 8312, 8313, 8315, 8336, 8356, 8357, 8366-8369, 8377-8380, 8382-8387 | | 8300, 8307, 8308, 8312, 8315, 8323, 8329, 8330, 8336, 8337, 8341, 8342, 8348-8350, 8354-8358, 8363, 8364, 8366-8370, 8372-8375, 8377-8380, 8382-8389 | 8300, 8307, 8308, 8312, 8313, 8315, 8323, 8329, 8336, 8337, 8341, 8342, 8348-8350, 8354-8358, 8363, 8364, 8366-8370, 8372-8380, 8382-8389 | 8300, 8302, 8308, 8312, 8315, 8330, 8336, 8356, 8357, 8366-8369, 8378-8387 | 8300, 8302, 8308, 8312, 8313, 8315, 8336, 8356, 8357, 8366-8369, 8378-8387 | 8300, 8307, 8308, 8312, 8315, 8323, 8329, 8330, 8336, 8337, 8341, 8342, 8348-8350, 8354-8358, 8363, 8364, 8366-8370, 8372-8375, 8378-8389 |
| S | 8301 | 8301 | | | | | | | |
| X | 8301-8302 | | | | | | | | |



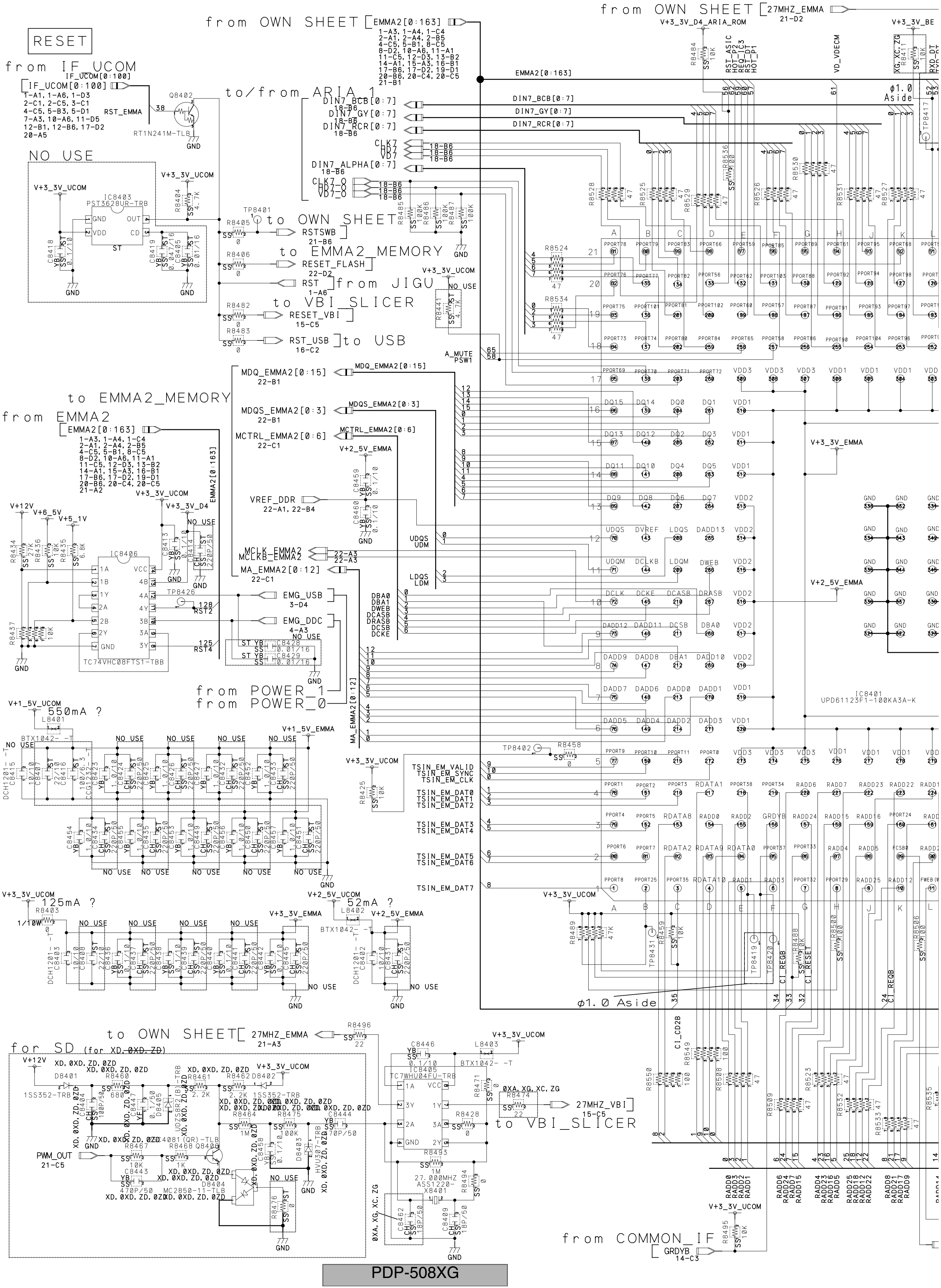
for Low-Grade
V+3_3V_UCOM
for High-Grade
NO USE
XD, XG, ZD, ZG
R8313 10K
R8312 ST 10K
ØXD, ØXA, XC, ØZD
R8330 10K
R8335 10K
GND
V+3_3V_STB
R8301 0 1/10W
D8308 ST UDZS4R7(B)-TRB
NO USE
DCH1201- -T C8307 10/10
WP_HDMI2 76
WP_HDMI3 77
WP_HDMI4
WP_PC 79
TP8343
RLS_R
RLS_G 81
TP8344
RLS_B
NO USE R8315 ST 10K
NO USE
C8328 YB STSS 0.1/10
C8329 YB STSS 0.1/10
C8330 YB STSS 0.1/10
MODE_DET2 84
MODE_DET1 85
OTW
R8338 47
R8339 1M
C8333 0.01/16
KEY_ST
KEY_AD1 87
KEY_AD2 88
V+3_3V_UCOM
RLS_L 89
TEMP2 90
TEMP3
R8320 100K
R8314 10K
C8332 0.1/10
NO USE C8331 ST 10/10 DCH1201- -T
TP8316
TP8304
TP8333
C8313 ST 0.1/10
C8312 ST 0.1/10
φ1.0 Aside
AC_DET_DRV 95
C8314 0.1/10
TXD_IF 98
RXD_IF 99
CLK_IF 100
from BOARD_IF_0
232C_CH2 1-D6
232C_CH3 1-D6
232C_CH4 1-D6
232C_CH8 1-D6
R8389 100
XD, ØXD, ØXA, ZD, ØZD
TP8347 DTR
TP8348 CTS
D8306
XG, XC, ZG
1SS301-TLB
R8302 100
TP8309
GND DTR RXD TXD NC
XG, XC, ZG
RS232C
XG, XC, ZG
CN8301 AKP1213-
NC RTS CTS NC
for IBD, CHN
V+3_3V_STB
NO USE
2SC4154(EFG)-TLB
R8385 4.7K
Q8304
R8387 ST 4.7K
R8386 4.7K
D8307
1SS352-TRB
NO USE
D8309 ST UDZS4R7(B)-TRB
R8331 470K
R8332 470K
C8301 470P/50
C8302 470P/50
GND
C8308 0.1/10
IC8305
C8311 0.1/10
C8309 0.1/10
C8321 0.1/10
C1+ V+ C1- C2+ C2- V- T2OUT R2IN
VCC GND T1OUT R1IN R1OUT T1IN T2IN R2OUT
SP3232ECY-TBB
R8306 100
R8308 NO USE 10K
C8319 0.1/10
R8304 22K
R8305 470K
2SJ461A-TLB Q8301 ST NO USE
GND
from BOARD_IF_0
TXD_SR 1-D6
SR_OUT 1-D6
RXD_SR 1-D6
TXD_SR SR_OUT RXD_SR GND
F8301 CTF1557- -T XG, XC, ZG
F8303 CTF1557- -T XG, XC, ZG
F8302 CTF1557- -T XG, XC, ZG
F8304 CTF1557- -T XG, XC, ZG
JA8302 AKN1073- XG, XC, ZG
SR_OUT
TP8310
for IBD, CHN
C8325 470P/50
C8327 470P/50
C8326 470P/50
GND
V+5_1V_STB
R8321 22
R8326 1.2K
D8303 1SS352-TRB
D8305 1SS352-TRB
R8359 1.2K
R8328 1.2K
2SA1602A(EF)-TLB Q8305
TP8345 TP8346
TP8321
D8302 1SS352-TRB
R8324 3.3K
C8322 10/10 DCH1201- -T
Q8302 Q1 RN1902-T
R8360 3.3K
R8325 1K
Q8302 Q2 RN1902-T
GND
from BOARD_IF_1
REM 2-D2
TP8339
TP8340
R8371 100
R8361 100
232C_EN_B 67
232C_DET 68
TP8341
TP8342
RXD_SR+ 34
TXD_SR+ 33
for EU
V+5_1V_STB
XD, ØXD, ØXA, ZD, ØZD
R8329 27K
R8337 10K
Q8308 2SA1602A(EF)-TLB
D8301 1SS352-TRB
Q8313 HN1C01FU(YGR)-T
R8342 10K
R8341 1K
TP8306
from BOARD_IF_0
LINK_IO2 1-B1
R8307 220
2SC4081(QR)-TLB Q8310
R8349 22K
HN1C01FU(YGR)-T
D8310 ST UDZS6R8(B)-TRB
NO USE
R8323 22K
Q8303 RT1N241M-TLB
R8350 10K
R8354 10K
R8355 1.5K
C8320 0.1/10
GND
IC8306 TC74VHC00FTS1-TBB
1A 1B 1Y 2A 2B 2Y GND VCC 4B 4A 4Y 3B 3A 3Y
XD, ØXD, ØXA, ZD, ØZD
V+3_3V_STB
RT1P241M-TLB Q8312
C8324 0.1/10
TP8337 TP8338
GND
from/to EM
EMMA2[0:163
1-A3, 1-A4,
2-A1, 2-A4,
4-C5, 5-B1,
8-D2, 10-A
11-C5, 12-
14-A1, 15-
17-B6, 17-
20-B6, 20-
21-B1
IN2SEL_B for EU 69
AV_LINK_IN 73
AV_LINK_OUT 74
V+5_1V_STB
R8358 27K
R8363 10K
Q8309 2SA1602A(EF)-TLB
D8304 1SS352-TRB
Q8314 HN1C01FU(YGR)-T
R8370 10K
R8364 1K
TP8307
TP8335
LINK_IO3 1-B1
R8348 220
2SC4081(QR)-TLB Q8311
R8372 22K
HN1C01FU(YGR)-T
D8311 ST UDZS6R8(B)-TRB
NO USE
R8388 22K
Q8306 RT1N241M-TLB
R8373 10K
R8374 10K
R8375 1.5K
C8323 0.1/10
XD, ØXD, ØXA, ZD, ØZD
GND


IC8301
AGC1037- -PI-K
(M30620FCSGP-U5-K)
IF_UCOM
IF_UCOM[0:100] ]to IF_UCOM
1-A1, 1-A6, 1-D3
2-C1, 2-C5, 3-C1
4-C5, 5-B3, 5-D1
7-A3, 10-A6, 11-D5
12-B1, 12-B6, 17-D2
21-A1
WP_HDMI1
AV_LINK_OUT
AV_LINK_IN
SR_IN
IO_DET
BUSY_IC3
[EU]IN2SEL_B/[US]TRAP_SW
232C_DET
232C_EN_B
WE_DT
WE_MD
WE_IC3
WE_MTR
ACTIVE
LED_TIMER
LED_ON1
LED_OFF
FAN_NG2
FAN_NG1
FAN_ON2
FAN_ON1
FAN_CONT1
R8334
10K
GND
φ1.0
Aside
TP8330
TP8303
TP8329
TP8315
TP8350
TP8349
TP8336
TP8316
TP8332
TP8311
TP8331
TP8334
TP8327
TP8328
C8310
0.1/10
V+3_3V_UCOM
V+3_3V_STB
V+3_3V_D4
R8352
R8353
2.2K
R8316
4.7K
[JA]AIR_ST [EU]NC
ANT_POW_B
ANT_POW_DET
[EU]L_SYSTEM
[JA]ATR_MODE0/[US]AGC_SW2
XGA_FHD
CE
HDMI_DET4
HDMI_DET3
HDMI_DET2
HDMI_DET1
EPM
MODE_DET1
RST_EMMA
BUSY_IF
REQ_IF
APPLI_ON
RXD_SR+
TXD_SR+
32 BUSY
31 CLK
30 RXD
29 TXD
TXD_232C
RXD_232C
M_SW_DET
for FHD
for XGA
R8377
R8381
10K
XD, 0XD, 0XA, XG, XC
R8340
R8343
R8365
47K
Aside
NO USE
S8301
ZZ-4410-A-TBB
R8378
R8379
R8380
R8382
R8383
R8384
1K
ST
PTEST_DET
EMMA2[0:163]
from EMMA2
1-A3, 1-A4, 1-C4
2-A1, 2-A4, 2-B5
4-C5, 5-B1, 8-C5
8-D2, 10-A6, 11-A1
11-C5, 12-D3, 13-B2
14-A1, 15-A3, 16-B1
17-B6, 17-D2, 19-D1
20-C4, 20-C5, 21-A2
21-B1
D8308
UDZS4R7(B)-TRB
NO USE
C8328
C8329
C8330
0.1/10
R8338
R8339
R8336
22K
R8333
5.6K
C8333
C8331
C8313
C8312
C8314
UART
R8376
47K
C8334
0.01/16
IF_UCOM[0:100]
FAN_CONT2
AIR1_H
[JA]JUST_CLK
BYTE
CNVSS
XCIN
XCOUT
RESET
XOUT
XIN
NMI
AC_DET
CE_IF
HDMI_CEC_IN
HDMI_CEC_OUT
LED_ON2
DSUB_DET
REQ_PEAK_S
REQ_PEAK_M
R8351
R8347
C8315
R8305
100
R8322
X8302
X8301
C8303
C8304
10P/50
ASS1212- -TBB
32.768K
32.768kHz
16MHz
CSS1616- -T
IC8303
TC74VHC126FTS1-TBB
WE_DT
TXD_DT
RXD_DT
RXD_232C
WE_MTR
TXD_232C
C8316
V+3_3V_D4_ARIA
R8310
R8311
UARTTXD2
1-A4, 17-D2
UARTRXD2
from/to ARIA_0
R8318
TXD_WR
RXD_WR
IC8304
TC74VHC126FTS1-TBB
WE_IC3
WE_MD
TXD_MD
1-A4, 2-A4, 21-B6
RXD_MD
1-A4, 2-A4, 21-D5
C8317
R8319
to EMMA2
EMMA2 ↔ IF_UCOM
TP8308
TP8314
R8344
R8346
R8345
100
CE_IF
BUSY_IF
RXD_IF
TXD_IF
SCKINOUT
REQ_IF
CLK_IF
from/to EMMA2
TP8322
TP8323
TP8324
TP8325
Q8307
RT1N241M-TLB
RST_IF
RESET
V+3_3V_STB
TP8312
IC8302
PST3628UR-TRB
GND
OUT
VDD
CD
R8362
TP8313
C8318
C8305
1000P/50
C8306
4700P/16

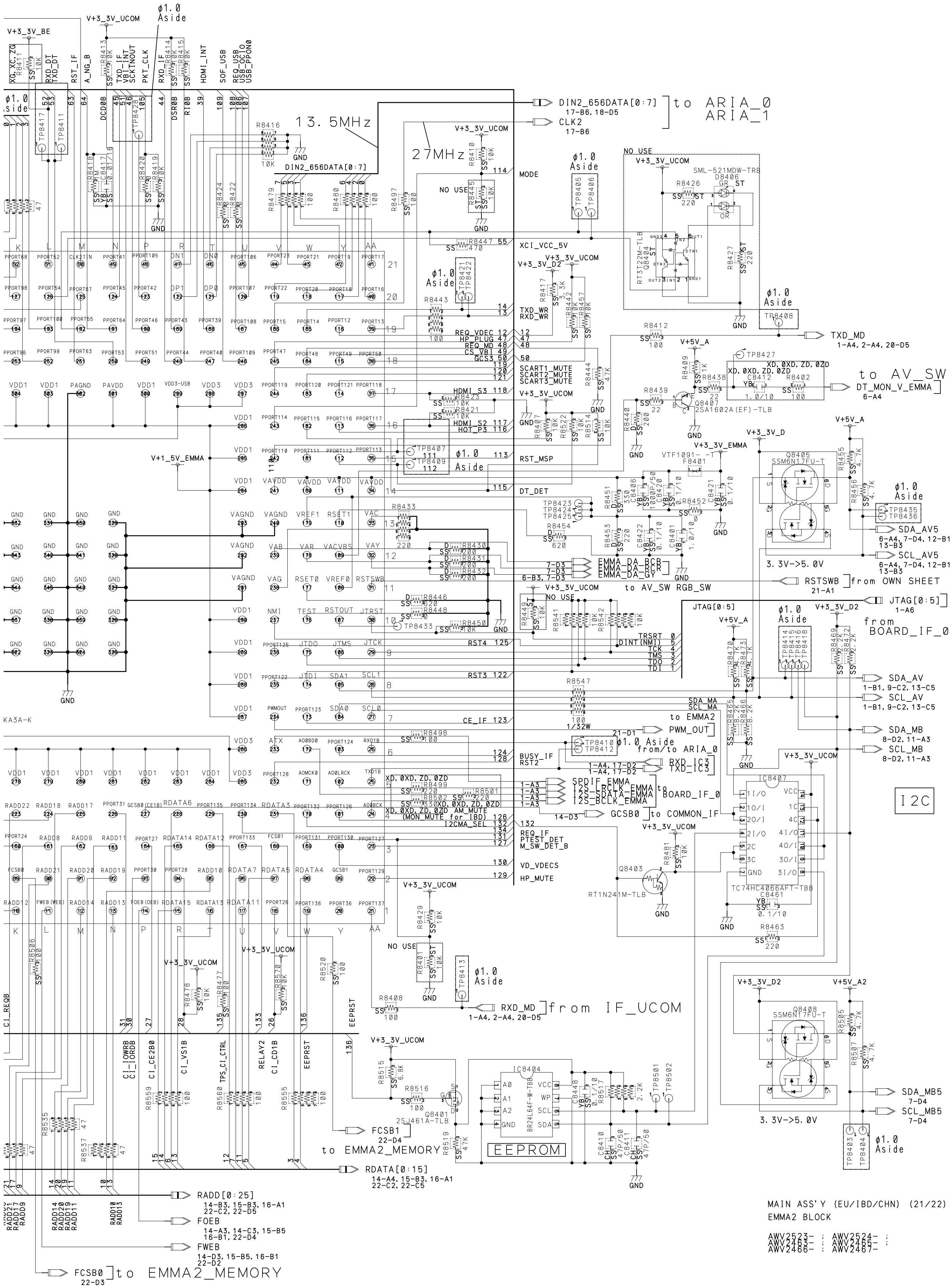
MAIN ASS'Y (EU/IBD/CHN) (20/22)
IF_UCOM BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

# 9.19 MAIN ASSY (19/20) [EMMA2 BLOCK]



RESET
from IF_UCOM
IF_UCOM[0:100]
RST_EMMA
Q8402
RT1N241M-TLB
GND
NO USE
V+3_3V_UCOM
IC8403
PST3628UR-TRB
R8404
4.7K
TP8401
to OWN SHEET
RSTSWB
21-B6
to EMMA2_MEMORY
RESET_FLASH
22-D2
RST
from JIGU
1-A6
to VBI_SLICER
RESET_VBI
15-C5
RST_USB
to USB
16-C2
from OWN SHEET
EMMA2[0:163]
to/from ARIA_1
DIN7_BCB[0:7]
DIN7_GY[0:7]
DIN7_RCR[0:7]
CLK7
HD7
VD7
DIN7_ALPHA[0:7]
CLK7_O
HD7_O
VD7_O
18-B6
A_MUTE
PSW1
to EMMA2_MEMORY
from EMMA2
MDQ_EMMA2[0:15]
22-B1
MDQS_EMMA2[0:3]
MCTRL_EMMA2[0:6]
22-C1
V+2_5V_EMMA
VREF_DDR
22-A1, 22-B4
MCLK_EMMA2
MCLKB_EMMA2
22-A3
MA_EMMA2[0:12]
UDQS
UDM
LDQS
LDM
DBA0
DBA1
DWEB
DCASB
DRASB
DCSB
DCKE
IC8406
TC74VHC08FTS1-TBB
TP8426
EMG_USB
3-D4
EMG_DDC
4-A3
RST2
RST4
from POWER_1
from POWER_0
V+1_5V_UCOM
550mA ?
L8401
BTX1042- -T
V+1_5V_EMMA
125mA ?
R8403
52mA ?
L8402
V+3_3V_EMMA
V+2_5V_EMMA
V+3_3V_UCOM
TP8402
R8458
R8425
TSIN_EM_VALID
TSIN_EM_SYNC
TSIN_EM_CLK
TSIN_EM_DAT0
TSIN_EM_DAT1
TSIN_EM_DAT2
TSIN_EM_DAT3
TSIN_EM_DAT4
TSIN_EM_DAT5
TSIN_EM_DAT6
TSIN_EM_DAT7
from OWN SHEET
27MHZ_EMMA
21-D2
V+3_3V_D4_ARIA_ROM
V+3_3V_BE
R8484
RST_ASIC
HOT_P3
RST_DT
HOT_P1
VD_VDECM
φ1.0 Aside
TP8417
IC8401
UPD61123F1-100KA3A-K
V+3_3V_EMMA
V+2_5V_EMMA
TP8431
TP8419
TP8420
CI_REQB
CI_RESET
CI_CD28
to OWN SHEET
27MHZ_EMMA
21-A3
R8496
for SD (for XD, 0XD, ZD)
V+12V
D8401
1SS352-TRB
PWM_OUT
21-C5
Q8409
D8404
MC2850-11-TLB
IC8405
TC7WHU04FU-TRB
L8403
BTX1042- -T
R8474
27MHZ_VBI
15-C5
to VBI_SLICER
X8401
27.000MHZ
ASS1220-
from COMMON_IF
GRDYB
14-C3
R8495
RADD0
RADD2
RADD1
RADD6
RADD24
RADD7
RADD15
RADD4
RADD23
RADD16
RADD5
RADD25
RADD18
RADD22
RADD8
RADD21
RADD9

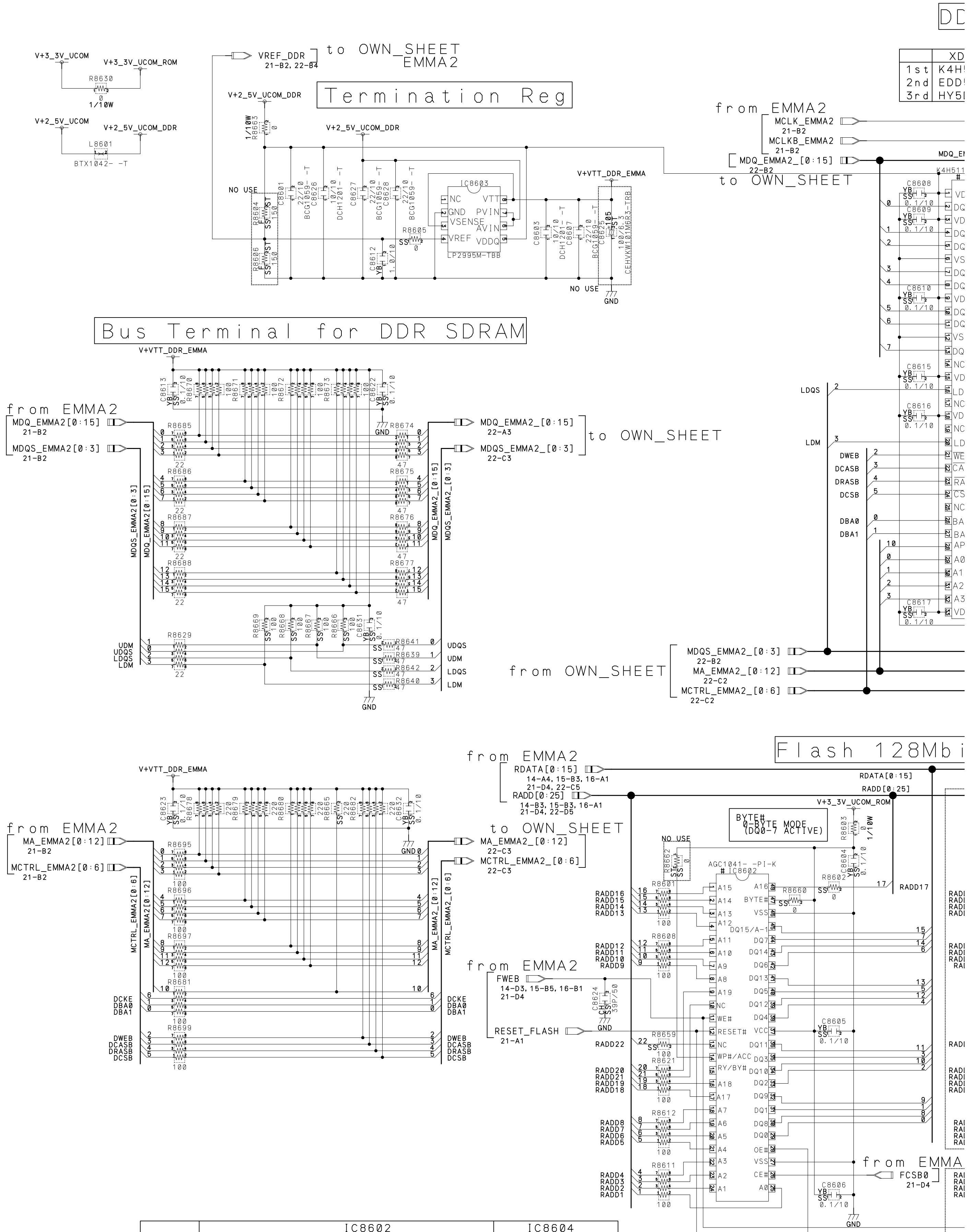


V+3_3V_BE
V+3_3V_UCOM
ϕ1.0
Aside
DIN2_656DATA[0:7]
17-B6, 18-D5
CLK2
17-B6
to ARIA_0
ARIA_1
13.5MHz
27MHz
MODE
XCI_VCC_5V
NO USE
SML-521MDW-TRB
D8406
GR ST
OR
R8426
220
RT3T22M-TLB
Q8404
R8427
TP8405
TP8406
TP8408
TXD_MD
1-A4, 2-A4, 20-D5
TXD_WR
RXD_WR
REQ_VDEC
HP_PLUG
REQ_MD
CS_VBI
GCS3
SCART1_MUTE
SCART2_MUTE
SCART3_MUTE
HDMI_S3
HDMI_S2
HOT_P3
V+5V_A
R8412
R8409
R8438
R8439
Q8407
2SA1602A(EF)-TLB
TP8427
XD, 0XD, ZD, 0ZD
C8412
R8402
to AV_SW
DT_MON_V_EMMA
6-A4
RST_MSP
DT_DET
V+1_5V_EMMA
V+3_3V_D
V+3_3V_EMMA
VTF1091-T
F8401
Q8405
SSM6N17FU-T
SDA_AV5
6-A4, 7-D4, 12-B1, 13-B3
SCL_AV5
3.3V->5.0V
TP8435
TP8436
EMMA_DA_BCB
EMMA_DA_RCR
EMMA_DA_GY
7-D3
6-B3, 7-D3
to AV_SW RGB_SW
RSTSWB
from OWN SHEET
21-A1
JTAG[0:5]
1-A6
from BOARD_IF_0
TRSRT
DINT(NMI)
TCK
TMS
TDO
TDI
RST4
RST3
R8547
1/32W
SDA_MA
SCL_MA
to EMMA2
PWM_OUT
21-D1
CE_IF
SDA_AV
SCL_AV
1-B1, 9-C2, 13-C5
SDA_MB
SCL_MB
8-D2, 11-A3
BUSY_IF
RST2
TP8410
TP8412
from/to ARIA_0
RXD_IC3
TXD_IC3
1-A4, 17-D2
SPDIF_EMMA
I2S_LRCLK_EMMA
I2S_SDATA_EMMA
I2S_BCLK_EMMA
to BOARD_IF_0
GCSB0
to COMMON_IF
14-D3
AM_MUTE
(MON_MUTE for IBD)
I2CMA_SEL
REQ_IF
PTEST_DET
M_SW_DET_B
VD_VDECS
HP_MUTE
IC8407
TC74HC4066AFT-TBB
C8461
R8463
I2C
Q8403
RT1N241M-TLB
R8481
KA3A-K
VDD1
VDD3
VAGND
VAVDD
GND
RXD_MD
from IF_UCOM
R8408
TP8413
V+3_3V_D2
V+5V_A2
Q8408
SDA_MB5
SCL_MB5
7-D4
TP8403
TP8404
CI_REQB
CI_IOWRB
CI_IORDB
CI_CE2B0
CI_VS1B
TPS_CI_CTRL
RELAY2
CI_CD1B
EEPRST
IC8404
BR24L64F-W-TBB
EEPROM
A0
A1
A2
GND
VCC
WP
SCL
SDA
Q8401
2SJ461A-TLB
R8515
R8516
R8519
TP8501
TP8502
FCSB1
22-D4
to EMMA2_MEMORY
RDATA[0:15]
14-A4, 15-B3, 16-A1
22-C2, 22-C5
RADD[0:25]
14-B3, 15-B3, 16-A1
22-C2, 22-D5
FOEB
14-A3, 14-C3, 15-B5
16-B1, 22-D4
FWEB
14-D3, 15-B5, 16-B1
22-D2
FCSB0
22-D3

MAIN ASS'Y (EU/IBD/CHN) (21/22)
EMMA2 BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

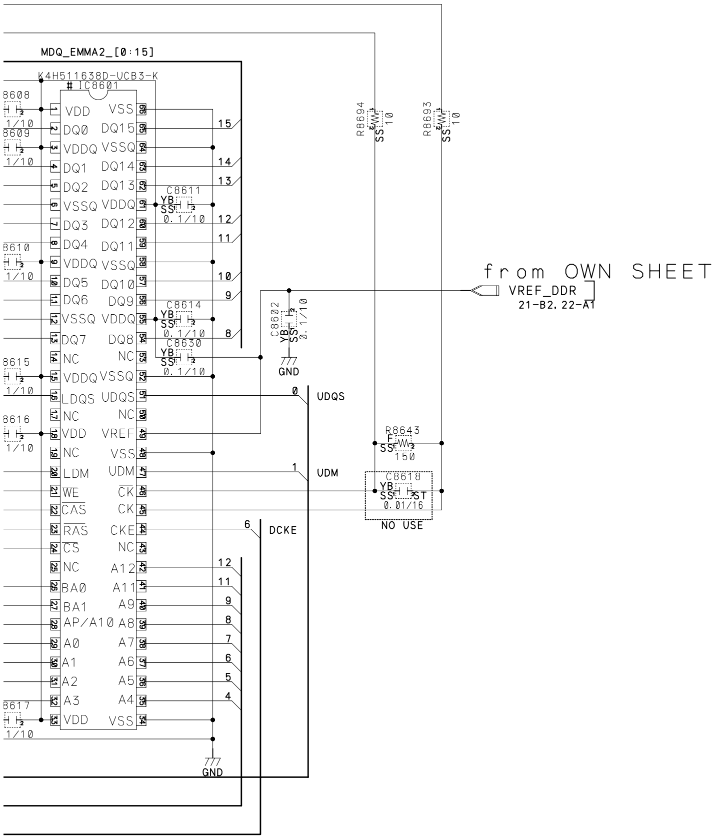
# 9.20 MAIN ASSY (20/20) [EMMA2 MEMORY BLOCK]


V+3_3V_UCOM
V+3_3V_UCOM_ROM
R8630
0
1/10W
V+2_5V_UCOM
V+2_5V_UCOM_DDR
L8601
BTX1042- -T
VREF_DDR
21-B2, 22-B4
to OWN_SHEET
EMMA2
Termination Reg
1/10W
R8663
0
NO USE
R8604
R8606
150
C8601
C8626
BCG1059- -T
C8627
DCH1201- -T
C8628
C8629
C8612
1.0/10
R8605
0
IC8603
NC
GND
VSENSE
VREF
VTT
PVIN
AVIN
VDDQ
LP2995M-TBB
V+VTT_DDR_EMMA
C8603
C8607
C8625
C8605
100/6.3
CEHVKW101M6R3-TRB
NO USE
GND
Bus Terminal for DDR SDRAM
from EMMA2
MDQ_EMMA2[0:15]
21-B2
MDQS_EMMA2[0:3]
21-B2
R8685
R8686
R8687
R8688
22
C8613
C8622
R8670
R8671
R8672
R8673
100
R8674
R8675
R8676
R8677
47
MDQ_EMMA2_[0:15]
22-A3
MDQS_EMMA2_[0:3]
22-C3
to OWN_SHEET
R8629
UDM
UDQS
LDQS
LDM
R8669
R8668
R8667
R8666
C8631
R8641
R8639
R8642
R8640
GND
from EMMA2
MCLK_EMMA2
21-B2
MCLKB_EMMA2
21-B2
MDQ_EMMA2_[0:15]
22-B2
to OWN_SHEET
K4H511
C8608
C8609
C8610
C8615
C8616
C8617
0.1/10
LDQS
LDM
DWEB
DCASB
DRASB
DCSB
DBA0
DBA1
from OWN_SHEET
MDQS_EMMA2_[0:3]
22-B2
MA_EMMA2_[0:12]
22-C2
MCTRL_EMMA2_[0:6]
22-C2
XD
1st K4H5
2nd EDD5
3rd HY5D
from EMMA2
MA_EMMA2[0:12]
21-B2
MCTRL_EMMA2[0:6]
21-B2
C8623
C8632
R8678
R8679
R8680
R8681
R8682
220
R8695
R8696
R8697
R8698
R8699
100
to OWN_SHEET
MA_EMMA2_[0:12]
22-C3
MCTRL_EMMA2_[0:6]
22-C3
DCKE
DBA0
DBA1
DWEB
DCASB
DRASB
DCSB
from EMMA2
RDATA[0:15]
14-A4, 15-B3, 16-A1
21-D4, 22-C5
RADD[0:25]
14-B3, 15-B3, 16-A1
21-D4, 22-D5
Flash 128Mbi
RDATA[0:15]
RADD[0:25]
V+3_3V_UCOM_ROM
BYTE#
0-BYTE MODE
(DQ0-7 ACTIVE)
R8603
1/10W
C8604
NO USE
R8662
AGC1041- -PI-K
IC8602
R8601
R8608
R8660
R8602
R8659
R8621
R8612
R8611
RADD17
from EMMA2
FWEB
14-D3, 15-B5, 16-B1
21-D4
C8624
39P/50
RESET_FLASH
21-A1
A15 A14 A13 A12 A11 A10 A9 A8 A19 NC WE# RESET# NC WP#/ACC RY/BY# A18 A17 A7 A6 A5 A4 A3 A2 A1
A16 BYTE# VSS DQ15/A-1 DQ7 DQ14 DQ6 DQ13 DQ5 DQ12 DQ4 VCC DQ11 DQ3 DQ10 DQ2 DQ9 DQ1 DQ8 DQ0 OE# VSS CE# A0
C8605
C8606
from EMMA
FCSB0
21-D4
GND

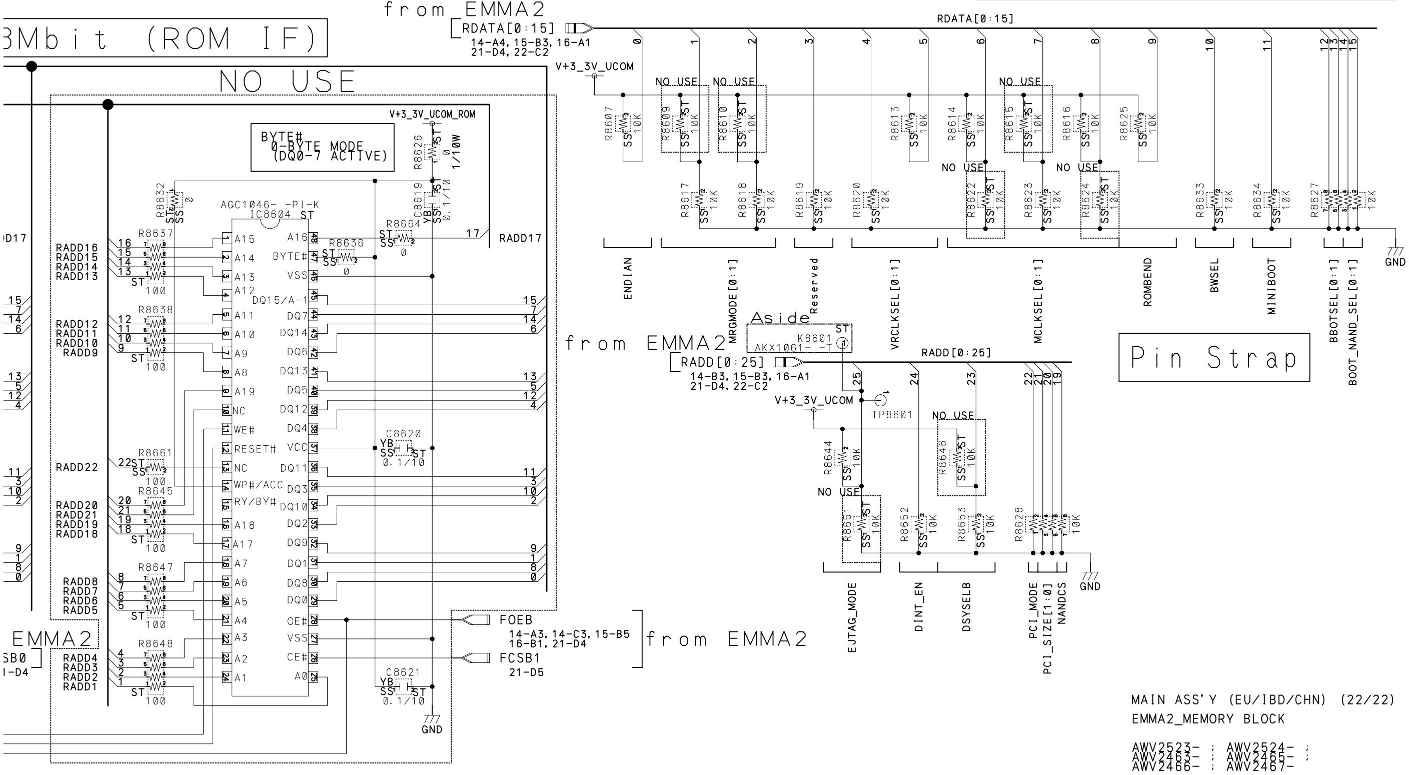
| | IC8602 | | IC8604 |
|---|---|---|---|
| XD, 0XD | S29GL064A90TFIR90-K | AGC1041- -PI-K | |
| 0XA | S29GL032A90TFIR4-K | AGC1040- -PI-K | NO USE |
| XG, XC | S29GL032A90TFIR4-K | AGC1042- -PI-K | |
| ZG | | AGC1047- -PI-K | |

## DDR 512Mbit (UMI)

|  | IC8601 |  |
|---|---|---|
|  | XD, 0XD, XG, XC, ZG | 0XA |
| st | K4H511638D-UCB3-K | K4H561638H-UCB3-K |
| nd | EDD5116AFTA-6B-E-K | HY5DU561622ETPJ-K |
| rd | HY5DU121622CTP-J |  |


MDQ_EMMA2_[0:15]
K4H511638D-UCB3-K
IC8601
VDD
DQ0
VDDQ
DQ1
DQ2
VSSQ
DQ3
DQ4
VDDQ
DQ5
DQ6
VSSQ
DQ7
NC
VDDQ
LDQS
NC
VDD
NC
LDM
WE
CAS
RAS
CS
NC
BA0
BA1
AP/A10
A0
A1
A2
A3
VDD
VSS
DQ15
VSSQ
DQ14
DQ13
VDDQ
DQ12
DQ11
VSSQ
DQ10
DQ9
VDDQ
DQ8
NC
VSSQ
UDQS
NC
VREF
VSS
UDM
CK
CK
CKE
NC
A12
A11
A9
A8
A7
A6
A5
A4
VSS
C8611
C8614
C8630
C8602
R8694
R8693
R8643
C8618
NO USE
UDQS
UDM
DCKE
GND
from OWN SHEET
VREF_DDR
21-B2, 22-A1

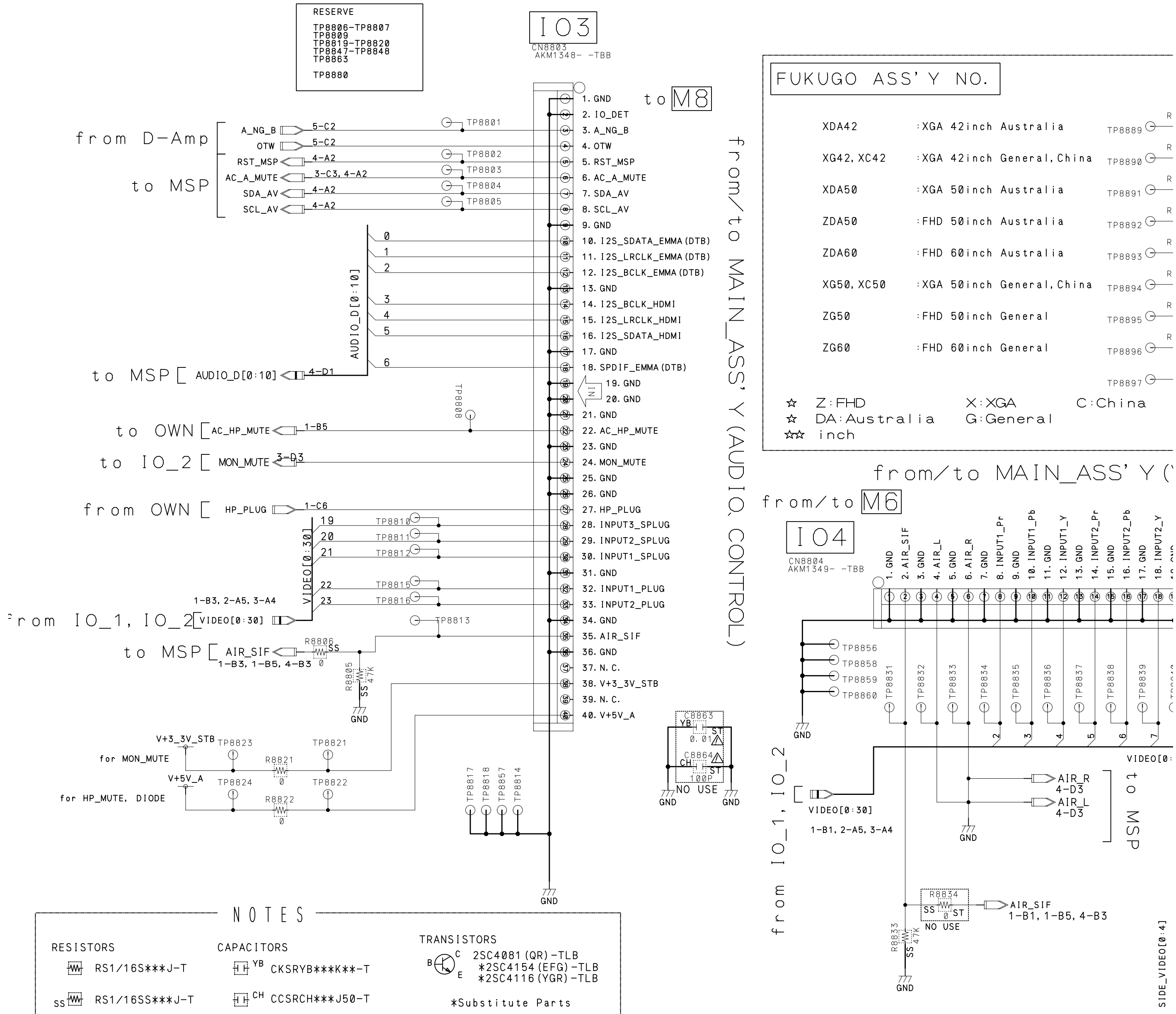
| ITEM | USED | VACANT |
|---|---|---|
|  |  | AWV2523-/AWV2524-/<br>AWV2463-/<br>AWV2465-/AWV2466-/<br>AWV2467- |
| C | 8601-8628, 8630-8632 | 8618-8621, 8625 |
| IC | 8601-8604 | 8604 |
| K | 8601 |  |
| L | 8601 |  |
| R | 8601-8630, 8632-8634,<br>8636-8648, 8651-8653,<br>8659-8682, 8685-8688,<br>8693-8697, 8699 | 8604, 8606, 8609, 8610,<br>8615, 8622, 8624, 8626,<br>8632, 8636-8638,<br>8645-8648, 8651, 8661,<br>8662, 8664 |


3Mbit (ROM IF)
NO USE
from EMMA2
RDATA[0:15]
14-A4, 15-B3, 16-A1
21-D4, 22-C2
V+3_3V_UCOM
V+3_3V_UCOM_ROM
BYTE#
0-BYTE MODE
(DQ0-7 ACTIVE)
AGC1046- -PI-K
IC8604
R8632
R8626
C8619
R8664
R8636
R8637
R8638
R8661
R8645
R8647
R8648
C8620
C8621
RADD16
RADD15
RADD14
RADD13
RADD12
RADD11
RADD10
RADD9
RADD22
RADD20
RADD21
RADD19
RADD18
RADD8
RADD7
RADD6
RADD5
RADD4
RADD3
RADD2
RADD1
RADD17
FOEB
14-A3, 14-C3, 15-B5
16-B1, 21-D4
FCSB1
21-D5
from EMMA2
GND
R8607
R8609
R8610
R8613
R8614
R8615
R8616
R8625
R8617
R8618
R8619
R8620
R8622
R8623
R8624
R8633
R8634
R8627
ENDIAN
MRGMODE[0:1]
Reserved
VRCLKSEL[0:1]
MCLKSEL[0:1]
ROMBEND
BWSEL
MINIBOOT
BBOTSEL[0:1]
BOOT_NAND_SEL[0:1]
Aside
K8601
AKX1061-
RADD[0:25]
14-B3, 15-B3, 16-A1
21-D4, 22-C2
TP8601
R8644
R8646
R8651
R8652
R8653
R8628
EJTAG_MODE
DINT_EN
DSYSELB
PCI_MODE
PCI_SIZE[1:0]
NANDCS
Pin Strap

MAIN ASS'Y (EU/IBD/CHN) (22/22)
EMMA2_MEMORY BLOCK

AWV2523- ; AWV2524- ;
AWV2463- ; AWV2465- ;
AWV2466- ; AWV2467-

## 9.21 TANSHI ASSY (1/4) [BOARD IF BLOCK]


RESERVE
TP8806-TP8807
TP8809
TP8819-TP8820
TP8847-TP8848
TP8863
TP8880
I03
CN8803
AKM1348- -TBB
to M8
from D-Amp
to MSP
A_NG_B 5-C2
OTW 5-C2
RST_MSP 4-A2
AC_A_MUTE 3-C3, 4-A2
SDA_AV 4-A2
SCL_AV 4-A2
TP8801
TP8802
TP8803
TP8804
TP8805
1. GND
2. IO_DET
3. A_NG_B
4. OTW
5. RST_MSP
6. AC_A_MUTE
7. SDA_AV
8. SCL_AV
9. GND
10. I2S_SDATA_EMMA(DTB)
11. I2S_LRCLK_EMMA(DTB)
12. I2S_BCLK_EMMA(DTB)
13. GND
14. I2S_BCLK_HDMI
15. I2S_LRCLK_HDMI
16. I2S_SDATA_HDMI
17. GND
18. SPDIF_EMMA(DTB)
19. GND
20. GND
21. GND
22. AC_HP_MUTE
23. GND
24. MON_MUTE
25. GND
26. GND
27. HP_PLUG
28. INPUT3_SPLUG
29. INPUT2_SPLUG
30. INPUT1_SPLUG
31. GND
32. INPUT1_PLUG
33. INPUT2_PLUG
34. GND
35. AIR_SIF
36. GND
37. N.C.
38. V+3_3V_STB
39. N.C.
40. V+5V_A
from/to MAIN_ASS'Y(AUDIO, CONTROL)
AUDIO_D[0:10]
to MSP AUDIO_D[0:10] 4-D1
TP8808
IN
to OWN AC_HP_MUTE 1-B5
to IO_2 MON_MUTE 3-D3
from OWN HP_PLUG 1-C6
VIDEO[0:30]
TP8810
TP8811
TP8812
TP8815
TP8816
TP8813
1-B3, 2-A5, 3-A4
from IO_1, IO_2 VIDEO[0:30]
to MSP AIR_SIF 1-B3, 1-B5, 4-B3
R8806 SS 0
R8805 SS 47K
GND
V+3_3V_STB
for MON_MUTE
TP8823
TP8821
R8821 0
V+5V_A
for HP_MUTE, DIODE
TP8824
TP8822
R8822 0
TP8817
TP8818
TP8857
TP8814
GND
C8863 YB ST 0.01
C8864 CH ST 100P
NO USE
GND
GND
FUKUGO ASS'Y NO.
XDA42 :XGA 42inch Australia TP8889
XG42, XC42 :XGA 42inch General, China TP8890
XDA50 :XGA 50inch Australia TP8891
ZDA50 :FHD 50inch Australia TP8892
ZDA60 :FHD 60inch Australia TP8893
XG50, XC50 :XGA 50inch General, China TP8894
ZG50 :FHD 50inch General TP8895
ZG60 :FHD 60inch General TP8896
TP8897
☆ Z:FHD X:XGA C:China
☆ DA:Australia G:General
☆☆ inch
from/to MAIN_ASS'Y(
from/to M6
I04
CN8804
AKM1349- -TBB
1. GND
2. AIR_SIF
3. GND
4. AIR_L
5. GND
6. AIR_R
7. GND
8. INPUT1_Pr
9. GND
10. INPUT1_Pb
11. GND
12. INPUT1_Y
13. GND
14. INPUT2_Pr
15. GND
16. INPUT2_Pb
17. GND
18. INPUT2_Y
TP8856
TP8858
TP8859
TP8860
TP8831
TP8832
TP8833
TP8834
TP8835
TP8836
TP8837
TP8838
TP8839
VIDEO[0:
from IO_1, IO_2
VIDEO[0:30]
1-B1, 2-A5, 3-A4
AIR_R 4-D3
AIR_L 4-D3
to MSP
R8834 SS 0 ST
NO USE
AIR_SIF 1-B1, 1-B5, 4-B3
R8833 SS 47K
GND
SIDE_VIDEO[0:4]

NOTES

RESISTORS
- RS1/16S***J-T
- SS RS1/16SS***J-T
- F SS RS1/16SS****F-T

CAPACITORS
- YB CKSRYB***K**-T
- CH CCSRCH***J50-T
- SS YB CKSSYB***K**-T

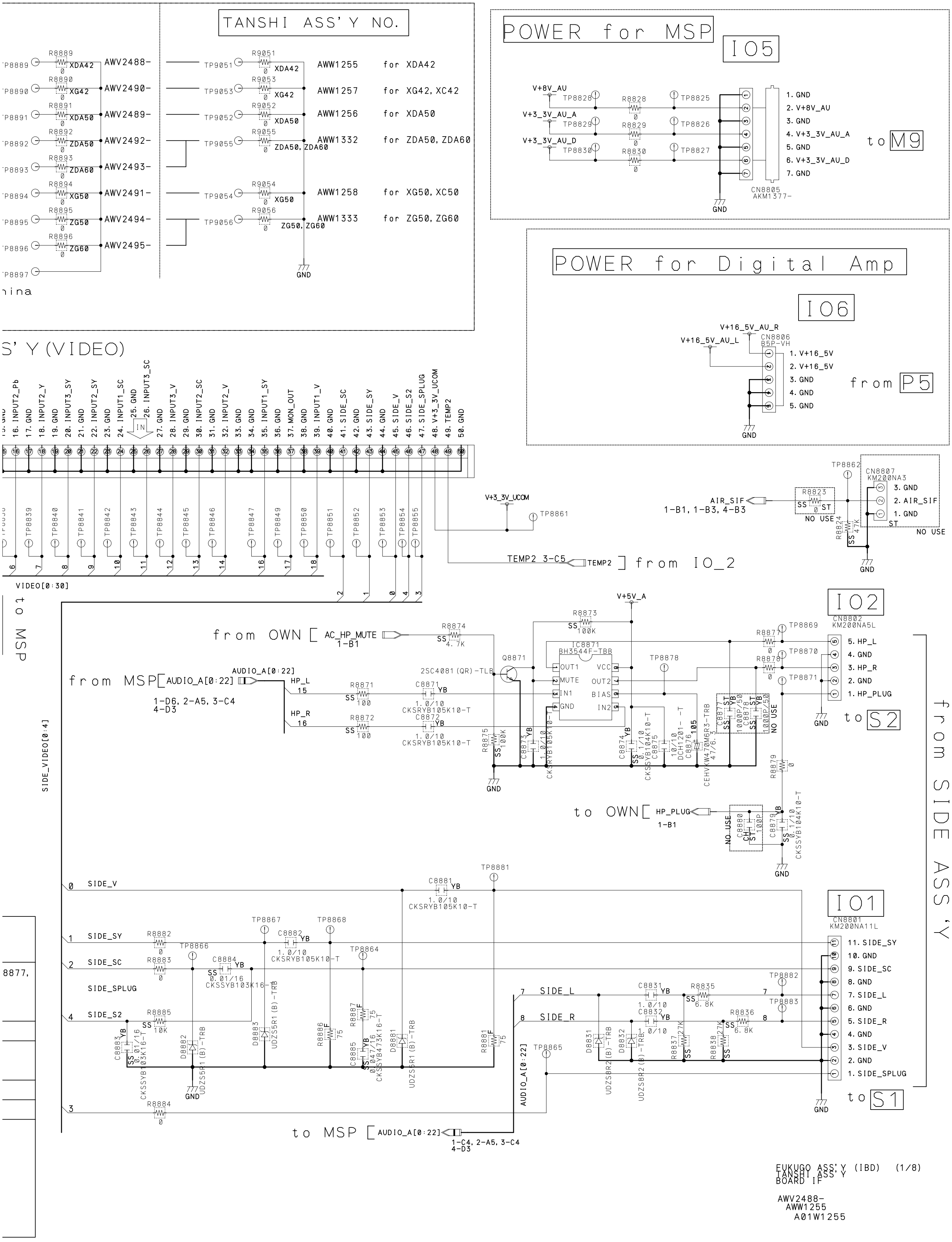
TRANSISTORS
- 2SC4081(QR)-TLB
- *2SC4154(EFG)-TLB
- *2SC4116(YGR)-TLB

*Substitute Parts

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

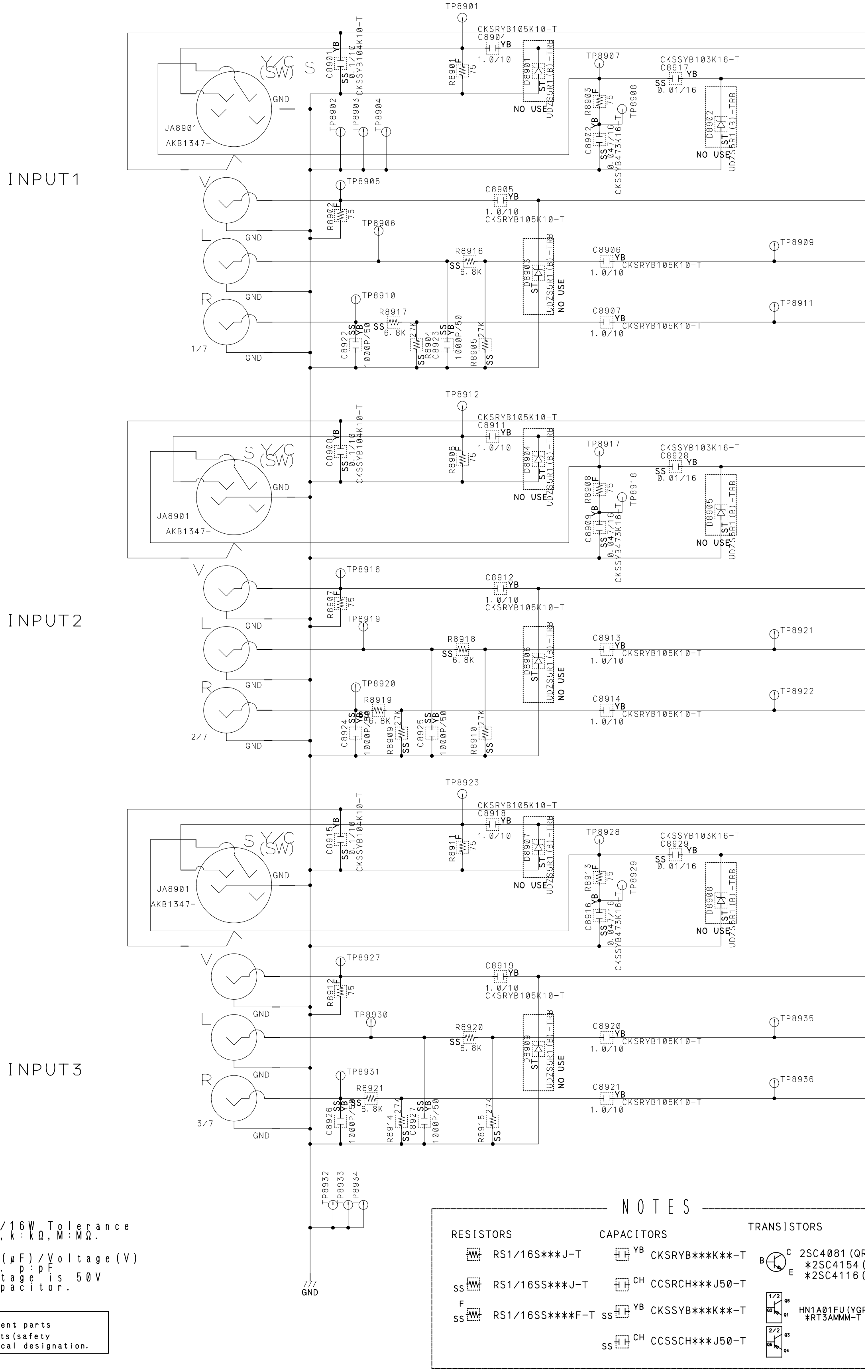
* RESISTORS
Indicated in Ω, ±5%, 1/16W Tolerance unless otherwise noted, k:kΩ, M:MΩ.
* CAPACITORS
Indicated in Capacity(μF)/Voltage(V) unless otherwise noted. p:pF
Indication without voltage is 50V except electrolytic capacitor.

| | USED | VACANT<br>AWV2488- | VACANT<br>AWV2489- | VACANT<br>AWV2490- | VACANT<br>AWV2491- | VACANT<br>AWV2492- | VACANT<br>AWV2493- | VACANT<br>AWV2494- | VACANT<br>AWV2495- |
|---|---|---|---|---|---|---|---|---|---|
| C | 8831, 8832, 8863, 8864, 8871-8885 | 8863, 8864, 8877, 8878, 8880 | 8863, 8864, 8877, 8878, 8880 | 8863, 8864, 8877, 8878, 8880 | 8863, 8864, 8877, 8878, 8880 | 8863, 8864, 8877, 8878, 8880 | 8863, 8864, 8877, 8878, 8880 | 8863, 8864, 8877, 8878, 8880 | 8863, 8864, 8877, 8878, 8880 |
| CN | 8801-8807 | 8807 | 8807 | 8807 | 8807 | 8807 | 8807 | 8807 | 8807 |
| D | 8831, 8832, 8881-8883 | | | | | | | | |
| IC | 8871 | | | | | | | | |
| Q | 8871 | | | | | | | | |
| R | 8805, 8806, 8821, 8822-8824, 8828-8830, 8833, 8835-8838, 8871-8875, 8877-8879, 8881-8887, 8889-8896, 9051-9056 | 8823, 8834, 8890-8896, 9052-9056 | 8823, 8834, 8889, 8890, 8892-8896, 9051, 9053-9056 | 8823, 8834, 8889, 8891-8896, 9051, 9052, 9054-9056 | 8823, 8834, 8889-8893, 8895, 8896, 9051-9053, 9055, 9056 | 8823, 8834, 8889-8891, 8893-8896, 9051-9054, 9056 | 8823, 8834, 8889-8892, 8894-8896, 9051-9054, 9056 | 8823, 8834, 8889-8894, 8896, 9051-9055 | 8823, 8834, 8889-8895 9051-9055 |



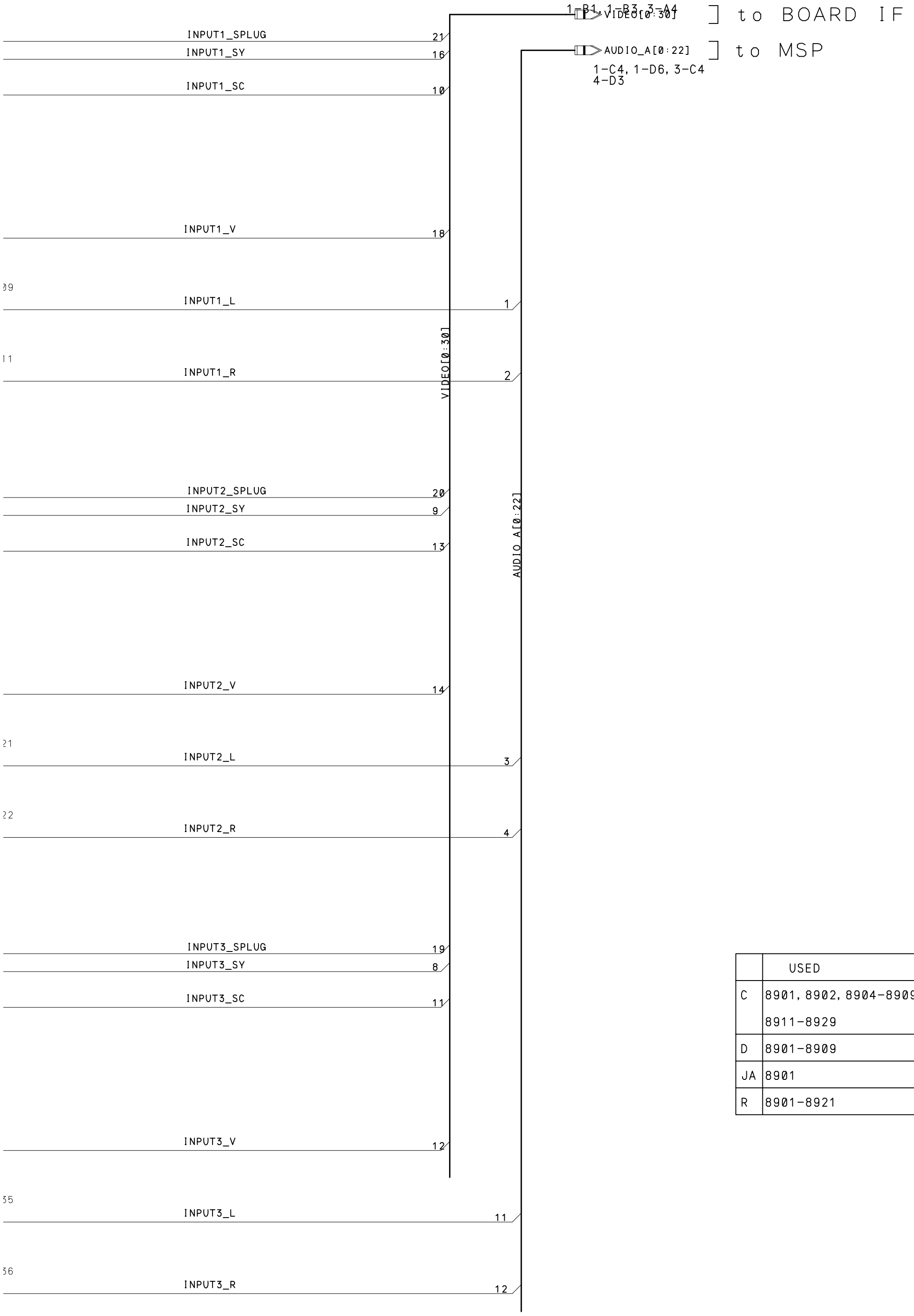
TANSHI ASS'Y NO.
R8889 XDA42 AWV2488-
R8890 XG42 AWV2490-
R8891 XDA50 AWV2489-
R8892 ZDA50 AWV2492-
R8893 ZDA60 AWV2493-
R8894 XG50 AWV2491-
R8895 ZG50 AWV2494-
R8896 ZG60 AWV2495-
TP8889 TP8890 TP8891 TP8892 TP8893 TP8894 TP8895 TP8896 TP8897
TP9051 R9051 XDA42 AWW1255 for XDA42
TP9053 R9053 XG42 AWW1257 for XG42, XC42
TP9052 R9052 XDA50 AWW1256 for XDA50
TP9055 R9055 ZDA50, ZDA60 AWW1332 for ZDA50, ZDA60
TP9054 R9054 XG50 AWW1258 for XG50, XC50
TP9056 R9056 ZG50, ZG60 AWW1333 for ZG50, ZG60
GND
POWER for MSP
I05
V+8V_AU TP8828 R8828
V+3_3V_AU_A TP8829 R8829 TP8826
V+3_3V_AU_D TP8830 R8830 TP8827
TP8825
1. GND
2. V+8V_AU
3. GND
4. V+3_3V_AU_A
5. GND
6. V+3_3V_AU_D
7. GND
CN8805 AKM1377-
to M9
POWER for Digital Amp
I06
V+16_5V_AU_R
V+16_5V_AU_L
CN8806 B5P-VH
1. V+16_5V
2. V+16_5V
3. GND
4. GND
5. GND
from P5
S' Y (VIDEO)
16. INPUT2_Pb
17. GND
18. INPUT2_Y
19. GND
20. INPUT3_SY
21. GND
22. INPUT2_SY
23. GND
24. INPUT1_SC
25. GND
26. INPUT3_SC
27. GND
28. INPUT3_V
29. GND
30. INPUT2_SC
31. GND
32. INPUT2_V
33. GND
34. GND
35. INPUT1_SY
36. GND
37. MON_OUT
38. GND
39. INPUT1_V
40. GND
41. SIDE_SC
42. GND
43. SIDE_SY
44. GND
45. SIDE_V
46. SIDE_S2
47. SIDE_SPLUG
48. V+3_3V_UCOM
49. TEMP2
50. GND
IN
TP8839 TP8840 TP8841 TP8842 TP8843 TP8844 TP8845 TP8846 TP8847 TP8849 TP8850 TP8851 TP8852 TP8853 TP8854 TP8855
VIDEO[0:30]
V+3_3V_UCOM TP8861
TEMP2 3-C5 TEMP2 ] from IO_2
TP8862 CN8807 KM200NA3
3. GND
2. AIR_SIF
1. GND
AIR_SIF 1-B1, 1-B3, 4-B3
R8823 SS ST 0 NO USE
R8824 SS 4.7K ST NO USE
to MSP
SIDE_VIDEO[0:4]
V+5V_A
R8873 SS 100K
IO2
CN8802 KM200NA5L
from OWN [ AC_HP_MUTE 1-B1
R8874 SS 4.7K
IC8871 BH3544F-TBB
Q8871 2SC4081(QR)-TLB
OUT1 MUTE IN1 GND VCC OUT2 BIAS IN2
TP8878
TP8869 R8877 TP8870 R8878 TP8871
5. HP_L
4. GND
3. HP_R
2. GND
1. HP_PLUG
to S2
from MSP [ AUDIO_A[0:22]
AUDIO_A[0:22]
1-D6, 2-A5, 3-C4 4-D3
HP_L 15 HP_R 16
R8871 SS 100
R8872 SS 100
C8871 YB 1.0/10 CKSRYB105K10-T
C8872 YB 1.0/10 CKSRYB105K10-T
R8875 SS 100K
C8873 YB 1.0/10 CKSRYB105K10-T
C8874 YB SS 0.1/10 CKSSYB104K10-T
C8875 10/10 DCH1201-T
C8876 105 CEHVKW470M6R3-TRB 47/6.3
C8877 SS ST 1000P/50
C8878 SS ST CH 1000P/50 NO USE
R8879 0
to OWN [ HP_PLUG 1-B1
C8880 NO USE CH ST 100P
C8879 YB SS 0.1/10 CKSSYB104K10-T
from SIDE ASS'Y
0 SIDE_V
TP8881
C8881 YB 1.0/10 CKSRYB105K10-T
IO1
CN8801 KM200NA11L
1 SIDE_SY R8882 0
TP8867 TP8868
C8882 YB 1.0/10 CKSRYB105K10-T
2 SIDE_SC R8883 0
TP8866
C8884 YB SS 0.01/16 CKSSYB103K16-T
TP8864
SIDE_SPLUG
4 SIDE_S2 R8885 SS 10K
C8883 YB SS 0.01/16 CKSSYB103K16-T
D8882 UDZS5R1(B)-TRB
D8883 UDZS5R1(B)-TRB
R8886 75
R8887 75
C8885 YB SS 0.047/16 CKSSYB473K16-T
D8881 UDZS5R1(B)-TRB
R8881 75
GND
TP8865
AUDIO_A[0:22]
7 SIDE_L 8 SIDE_R
C8831 YB 1.0/10
C8832 YB 1.0/10
R8835 SS 6.8K
R8836 SS 6.8K
D8831 UDZS8R2(B)-TRB
D8832 UDZS8R2(B)-TRB
R8837 SS 27K
R8838 SS 27K
TP8882 TP8883
11. SIDE_SY
10. GND
9. SIDE_SC
8. GND
7. SIDE_L
6. GND
5. SIDE_R
4. GND
3. SIDE_V
2. GND
1. SIDE_SPLUG
to S1
3 R8884 0
to MSP [ AUDIO_A[0:22] 1-C4, 2-A5, 3-C4 4-D3
8877,
FUKUGO ASS'Y (IBD) (1/8)
TANSHI ASS'Y
BOARD IF
AWV2488-
AWW1255
A01W1255

# 9.22 TANSHI ASSY (2/4) [IO_1 BLOCK]

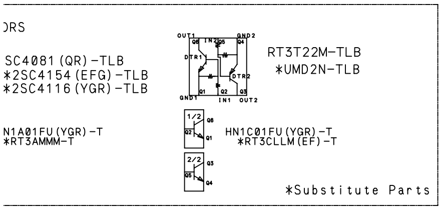

INPUT1
INPUT2
INPUT3
Y/C (SW) S
S Y/C (SW)
JA8901
AKB1347-
GND
V
L
R
1/7
2/7
3/7
TP8901
TP8902
TP8903
TP8904
TP8905
TP8906
TP8907
TP8908
TP8909
TP8910
TP8911
TP8912
TP8916
TP8917
TP8918
TP8919
TP8920
TP8921
TP8922
TP8923
TP8927
TP8928
TP8929
TP8930
TP8931
TP8932
TP8933
TP8934
TP8935
TP8936
C8901
C8904
C8905
C8906
C8907
C8902
C8917
C8908
C8911
C8912
C8913
C8914
C8909
C8928
C8915
C8918
C8919
C8920
C8921
C8916
C8929
C8922
C8923
C8924
C8925
C8926
C8927
CKSSYB104K10-T
CKSRYB105K10-T
CKSSYB103K16-T
CKSSYB473K16-T
0.1/10
1.0/10
0.01/16
0.047/16
1000P/50
R8901
R8902
R8903
R8904
R8905
R8906
R8907
R8908
R8909
R8910
R8911
R8912
R8913
R8914
R8915
R8916
R8917
R8918
R8919
R8920
R8921
75
6.8K
27K
D8901
D8902
D8903
D8904
D8905
D8906
D8907
D8908
D8909
UDZS5R1(B)-TRB
NO USE
SS
YB
F
ST
GND
NOTES
RESISTORS
RS1/16S∗∗∗J-T
SS RS1/16SS∗∗∗J-T
F SS RS1/16SS∗∗∗∗F-T
CAPACITORS
YB CKSRYB∗∗∗K∗∗-T
CH CCSRCH∗∗∗J50-T
SS YB CKSSYB∗∗∗K∗∗-T
SS CH CCSSCH∗∗∗J50-T
TRANSISTORS
B C E
2SC4081(QR
∗2SC4154(
∗2SC4116(
1/2 Q6 Q2 Q1
2/2 Q3 Q5 Q4
HN1A01FU(YGR
∗RT3AMMM-T

∗ RESISTORS
Indicated in Ω, ±5%, 1/16W Tolerance
unless otherwise noted, k : kΩ, M : MΩ.
∗ CAPACITORS
Indicated in Capacity (μF)/Voltage (V)
unless otherwise noted. p : pF
Indication without voltage is 50V
except electrolytic capacitor.

The ⚠ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.


1-B1, 1-B3, 3-A4
VIDEO[0:30]
] to BOARD IF
AUDIO_A[0:22]
] to MSP
1-C4, 1-D6, 3-C4
4-D3
INPUT1_SPLUG 21
INPUT1_SY 16
INPUT1_SC 10
INPUT1_V 18
INPUT1_L 1
INPUT1_R 2
VIDEO[0:30]
INPUT2_SPLUG 20
INPUT2_SY 9
INPUT2_SC 13
AUDIO_A[0:22]
INPUT2_V 14
INPUT2_L 3
INPUT2_R 4
INPUT3_SPLUG 19
INPUT3_SY 8
INPUT3_SC 11
INPUT3_V 12
INPUT3_L 11
INPUT3_R 12
09
11
21
22
55
56

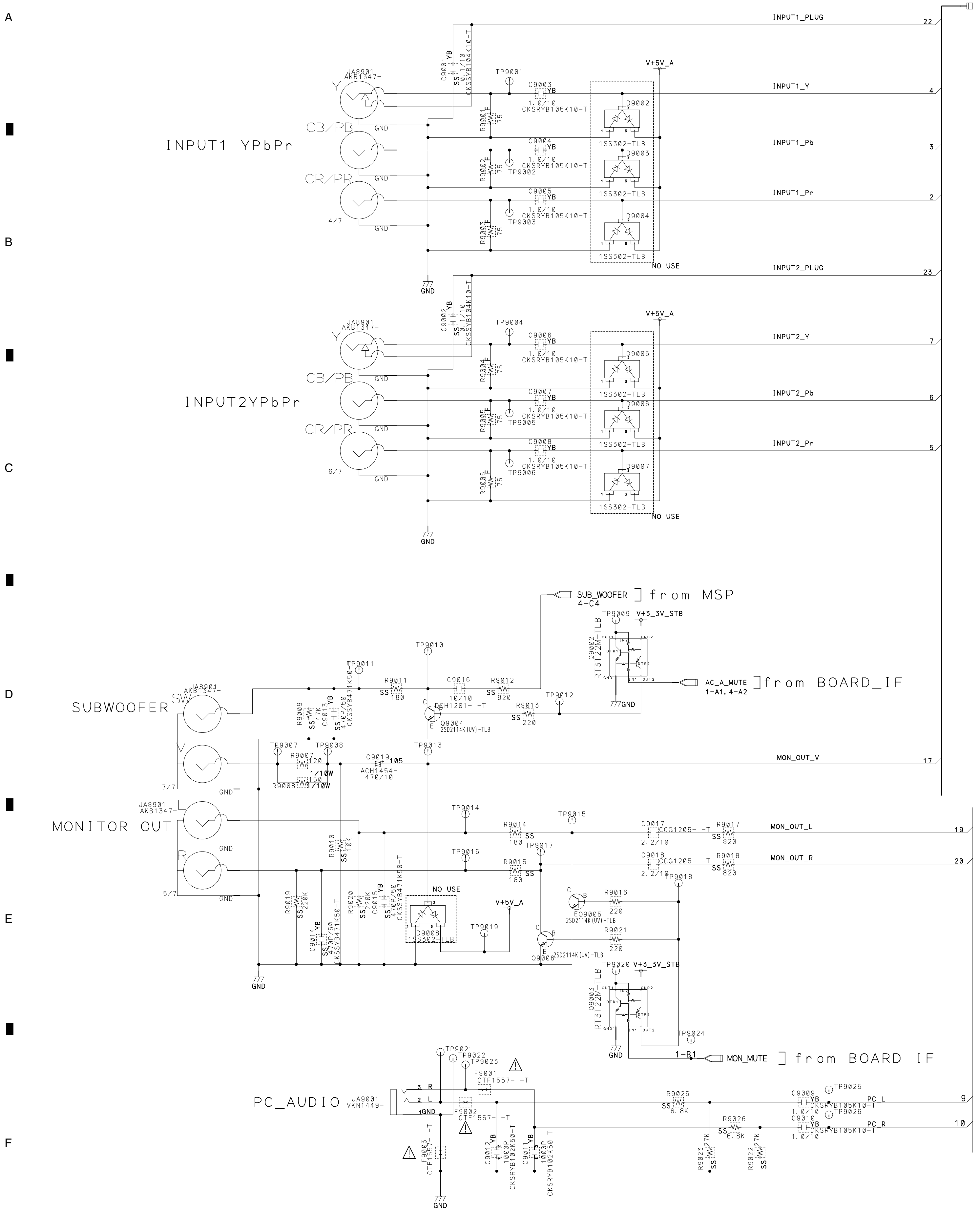
| | USED | VACANT |
|---|---|---|
| C | 8901, 8902, 8904-8909,<br>8911-8929 | |
| D | 8901-8909 | 8901-8909 |
| JA | 8901 | |
| R | 8901-8921 | |

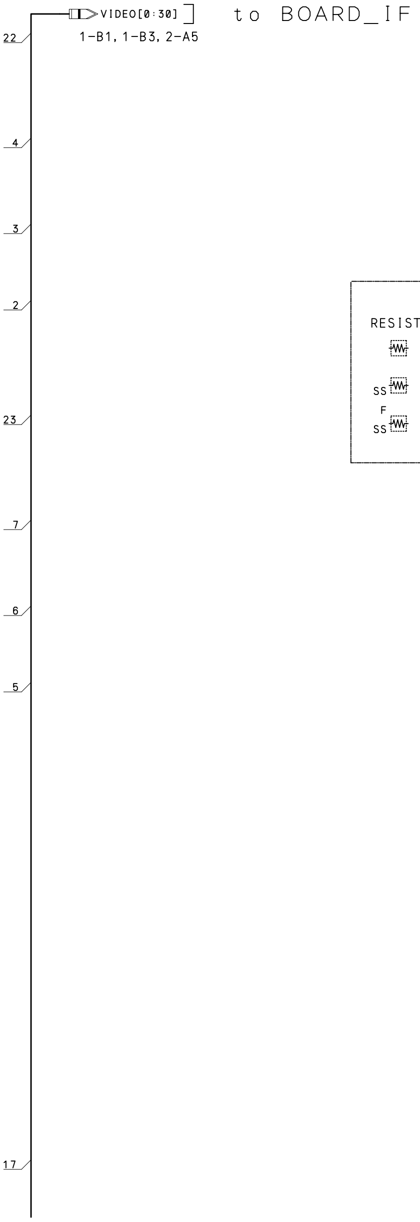

ORS
SC4081(QR)-TLB
*2SC4154(EFG)-TLB
*2SC4116(YGR)-TLB
OUT1
GND2
Q6
IN2
Q5
Q4
DTR1
DTR2
Q1
Q2
Q3
GND1
IN1
OUT2
RT3T22M-TLB
*UMD2N-TLB
N1A01FU(YGR)-T
*RT3AMMM-T
1/2
Q6
Q2
Q1
2/2
Q3
Q5
Q4
HN1C01FU(YGR)-T
*RT3CLLM(EF)-T
*Substitute Parts

FUKUGO ASS'Y (IBD) (2/8)
TANSHI ASS'Y
IO_1

AWV2488-
AWW1255
A02W1255

# 9.23 TANSHI ASSY (3/4) [IO_2 BLOCK]


A
B
C
D
E
F
INPUT1 YPbPr
INPUT2YPbPr
SUBWOOFER
MONITOR OUT
PC_AUDIO
JA8901
AKB1347-
Y
CB/PB
CR/PR
GND
4/7
6/7
7/7
5/7
SW
V
L
R
C9001
C9002
YB
SS
0.1/10
CKSSYB104K10-T
TP9001
TP9002
TP9003
TP9004
TP9005
TP9006
C9003
C9004
C9005
C9006
C9007
C9008
1.0/10
CKSRYB105K10-T
R9001
R9002
R9003
R9004
R9005
R9006
75
F
D9002
D9003
D9004
D9005
D9006
D9007
1SS302-TLB
V+5V_A
NO USE
INPUT1_PLUG
INPUT1_Y
INPUT1_Pb
INPUT1_Pr
INPUT2_PLUG
INPUT2_Y
INPUT2_Pb
INPUT2_Pr
22
4
3
2
23
7
6
5
SUB_WOOFER
4-C4
] from MSP
TP9009
V+3_3V_STB
Q9002
RT3T22M-TLB
OUT1
IN2
GND2
DTR1
DTR2
GND1
IN1
OUT2
AC_A_MUTE
1-A1, 4-A2
]from BOARD_IF
TP9010
TP9011
R9011
180
C9016
10/10
R9012
820
R9013
220
TP9012
R9009
4.7K
C9013
470P/50
CKSSYB471K50-T
DCH1201- -T
Q9004
2SD2114K(UV)-TLB
C
B
E
TP9007
TP9008
TP9013
R9007
120
R9008
150
1/10W
C9019
105
ACH1454-
470/10
MON_OUT_V
17
TP9014
TP9015
TP9016
TP9017
TP9018
R9014
180
R9015
180
C9017
C9018
CCG1205- -T
2.2/10
R9017
R9018
820
MON_OUT_L
MON_OUT_R
19
20
R9010
10K
R9019
220K
R9020
220K
C9014
C9015
470P/50
CKSSYB471K50-T
D9008
1SS302-TLB
TP9019
Q9005
Q9006
2SD2114K(UV)-TLB
R9016
220
R9021
220
TP9020
Q9003
TP9024
1-B1
MON_MUTE
] from BOARD IF
TP9021
TP9022
TP9023
F9001
F9002
F9003
CTF1557- -T
JA9001
VKN1449-
3 R
2 L
1GND
R9025
6.8K
R9026
6.8K
C9009
C9010
1.0/10
CKSRYB105K10-T
TP9025
TP9026
PC_L
PC_R
9
10
C9012
C9011
1000P
CKSRYB102K50-T
R9023
R9022
27K


VIDEO[0:30]
to BOARD_IF
1-B1, 1-B3, 2-A5
22
4
3
2
23
7
6
5
17

* RESISTORS
Indicated in Ω, ±5%, 1/16W Tolerance
unless otherwise noted, k: kΩ, M: MΩ.
* CAPACITORS
Indicated in Capacity(µF)/Voltage(V)
unless otherwise noted. p: pF
Indication without voltage is 50V
except electrolytic capacitor.

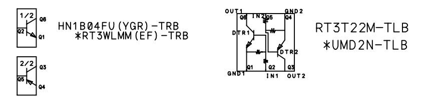
The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

## NOTES

RESISTORS
- RS1/16S***J-T
- SS RS1/16SS***J-T
- F SS RS1/16SS****F-T

CAPACITORS
- YB CKSRYB***K**-T
- SS YB CKSSYB***K**-T

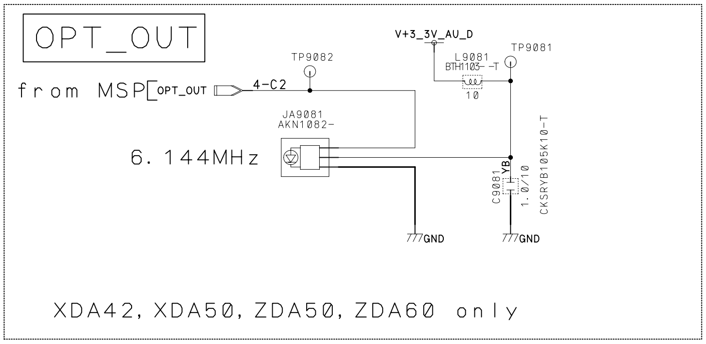
TRANSISTORS

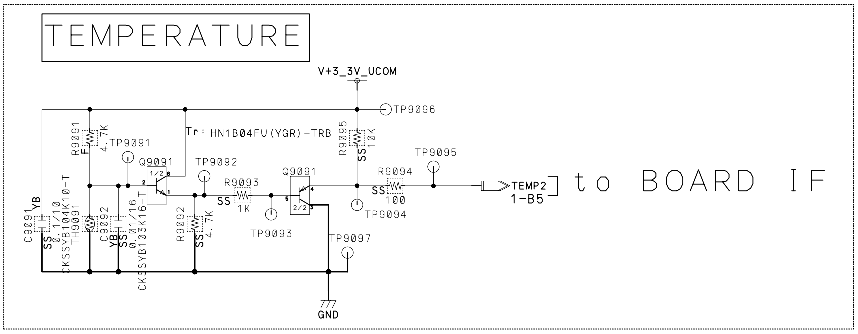

1/2
Q6
Q2
Q1
2/2
Q3
Q5
Q4
OUT1
IN2
Q5
GND2
Q6
Q4
DTR1
DTR2
Q1
Q2
Q3
GND1
IN1
OUT2

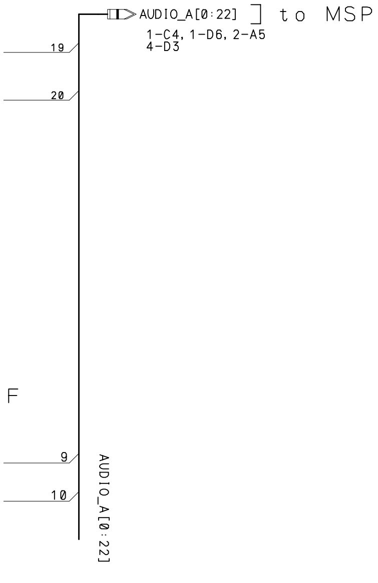
HN1B04FU(YGR)-TRB
*RT3WLMM(EF)-TRB

RT3T22M-TLB
*UMD2N-TLB

*Substitute Parts


OPT_OUT
V+3_3V_AU_D
TP9082
TP9081
L9081
BTH1103- -T
10
from MSP
OPT_OUT
4-C2
JA9081
AKN1082-
6.144MHz
C9081
YB
1.0/10
CKSRYB105K10-T
GND
GND
XDA42, XDA50, ZDA50, ZDA60 only


TEMPERATURE
V+3_3V_UCOM
TP9096
Tr: HN1B04FU(YGR)-TRB
R9091
F
4.7K
TP9091
Q9091
1/2
TP9092
R9093
SS
1K
Q9091
2/2
R9095
SS
10K
TP9095
R9094
SS
100
TP9094
TP9093
TP9097
C9091
YB
SS
0.1/10
CKSSYB104K10-T
TH9091
C9092
YB
SS
0.01/16
CKSSYB103K16-T
R9092
SS
4.7K
GND
TEMP2
1-B5
to BOARD IF

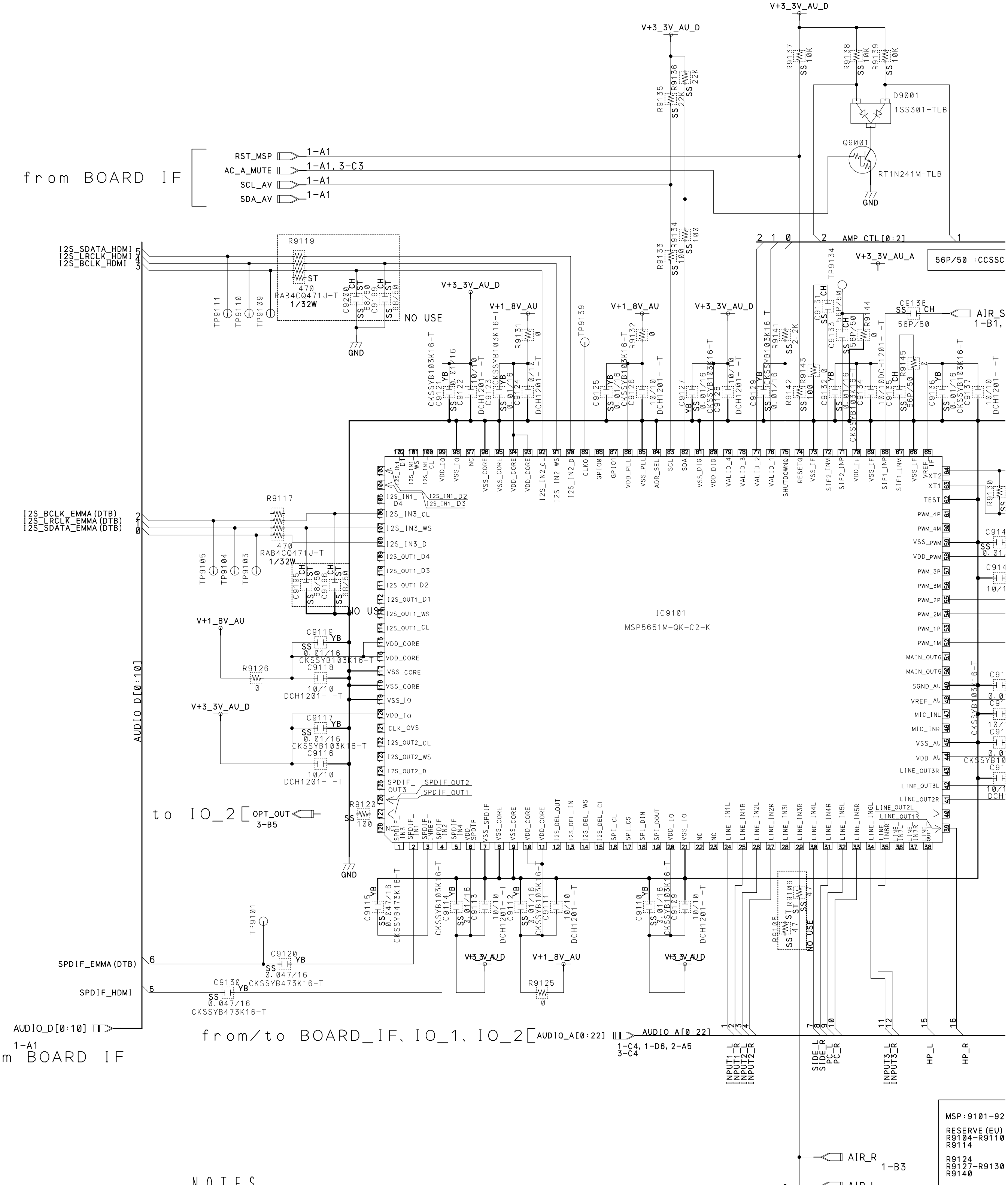

AUDIO_A[0:22]
to MSP
1-C4, 1-D6, 2-A5
4-D3
19
20
F
9
10
AUDIO_A[0:22]

| | USED | VACANT<br>AWV2488-, AWV2489-<br>AWV2492-, AWV2493- | VACANT<br>AWV2490-, AWV2491-<br>AWV2494-, AWV2495- |
|---|---|---|---|
| C | 9001-9019, 9081,<br>9091, 9092 | | 9081 |
| D | 9002-9008 | | |
| F | 9001-9003 | | |
| JA | 9001, 9081 | | |
| L | 9081 | | 9081 |
| Q | 9002-9006, 9091 | | 9081 |
| R | 9001-9023, 9025,<br>9026, 9091-9095 | | |
| TH | 9091 | | |

FUKUGO ASS'Y (IBD) (3/8)
TANSHI ASS'Y
IO_2

AWV2488-
AWW1255
A03W1255

# 9.24 TANSHI ASSY (4/4) [MSP BLOCK]


A
B
C
D
E
V+3_3V_AU_D
from BOARD IF
RST_MSP 1-A1
AC_A_MUTE 1-A1, 3-C3
SCL_AV 1-A1
SDA_AV 1-A1
R9135
R9136 22K
R9137 10K
R9138 10K
R9139 10K
D9001 1SS301-TLB
Q9001 RT1N241M-TLB
GND
I2S_SDATA_HDMI 5
I2S_LRCLK_HDMI 4
I2S_BCLK_HDMI 3
R9119 470 RAB4CQ471J-T 1/32W
TP9111
TP9110
TP9109
C9200
C9199
68/50
NO USE
R9133
R9134 100
2 1 0
AMP CTL[0:2]
V+3_3V_AU_A
56P/50 :CCSSC
C9138 56P/50
AIR_S 1-B1,
TP9134
TP9139
V+1_8V_AU
R9131 0
R9132 0
C9121
C9122
C9123
C9124
C9125
C9126
C9127
C9128
C9129
C9131
C9132
C9133
C9134
C9135
C9136
C9137
R9141
R9142 2.2K
R9143 100
R9144 0
R9145
CKSSYB103K16-T
DCH1201- -T
0.01/16
10/10
I2S_BCLK_EMMA(DTB) 2
I2S_LRCLK_EMMA(DTB) 1
I2S_SDATA_EMMA(DTB) 0
R9117 470 RAB4CQ471J-T 1/32W
TP9105
TP9104
TP9103
C9195
C9196
NO USE
V+1_8V_AU
C9119 0.01/16 CKSSYB103K16-T
C9118 10/10 DCH1201- -T
R9126 0
V+3_3V_AU_D
C9117 0.01/16 CKSSYB103K16-T
C9116 10/10 DCH1201- -T
IC9101
MSP5651M-QK-C2-K
AUDIO D[0:10]
to IO_2 OPT_OUT 3-B5
R9120 100
GND
TP9101
C9115 0.047/16 CKSSYB473K16-T
C9114
C9113
C9112
C9111
C9110
C9109
V+3_3V_AU_D
V+1_8V_AU
R9125 0
SPDIF_EMMA(DTB) 6
C9120 0.047/16 CKSSYB473K16-T
SPDIF_HDMI 5
C9130 0.047/16 CKSSYB473K16-T
AUDIO_D[0:10]
1-A1
from BOARD IF
from/to BOARD_IF, IO_1, IO_2
AUDIO_A[0:22]
1-C4, 1-D6, 2-A5
3-C4
R9105 47
R9106 47
NO USE
INPUT1_L
INPUT1_R
INPUT2_L
INPUT2_R
SIDE_L
SIDE_R
PC_L
PC_R
INPUT3_L
INPUT3_R
HP_L
HP_R
AIR_R 1-B3
AIR_L 1-B3
MSP:9101-92
RESERVE(EU)
R9104-R9110
R9114
R9124
R9127-R9130
R9140
GND

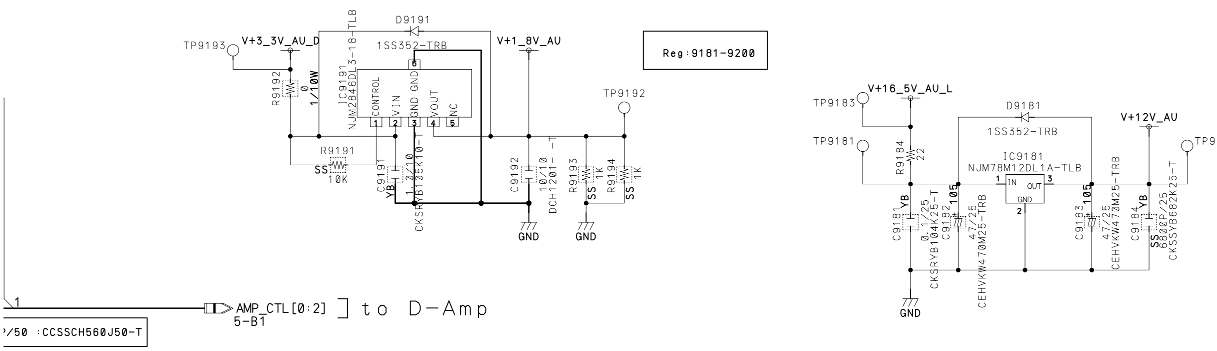
NOTES

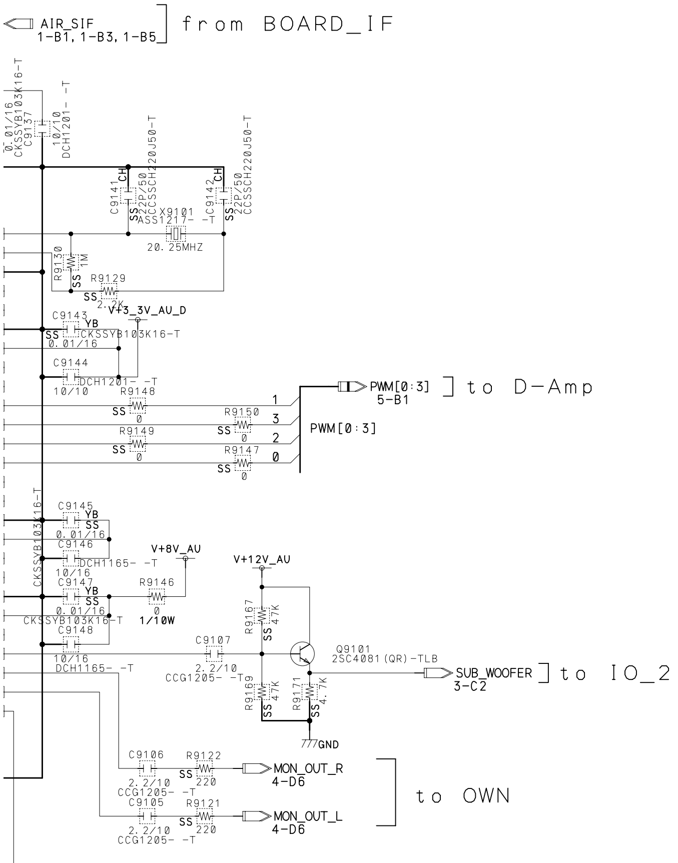
| RESISTORS | CAPACITORS | DIODE | TRANSISTORS |
|---|---|---|---|
| RS1/16S＊＊＊J-T | YB CKSRYB＊＊＊K＊＊-T | 1SS301-TLB<br>＊MC2848-11-TLB<br>＊DAN202U-TLB | RT1N241M-TLB<br>＊DTC124EUA-TLB |
| SS RS1/16SS＊＊＊J-T | SS CH CCSSCH＊＊＊J50-T | | |
| F SS RS1/16SS＊＊＊＊F-T | SS YB CKSSYB＊＊＊K＊＊-T | 1SS352-TRB<br>＊1SS355-TRB | |

＊Substitute Parts

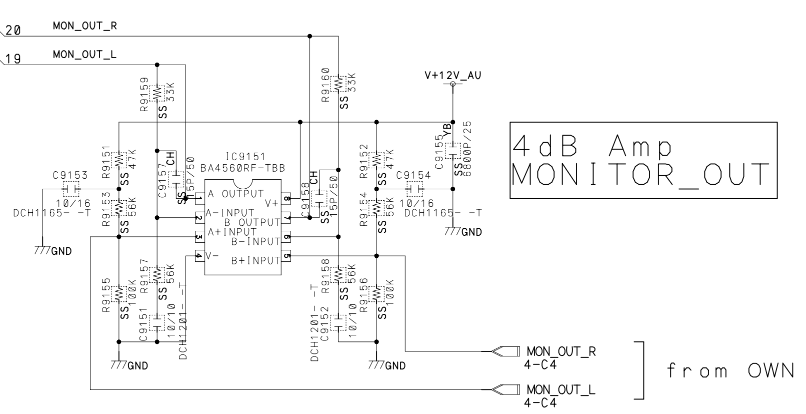
＊ RESISTORS
Indicated in
unless otherwi
＊ CAPACITORS
Indicated in
unless otherwi
Indication wit
except electro

The ⚠ mark found o
should be replaced
regulation authoriz


TP9193
V+3_3V_AU_D
IC9191
NJM2846DL3-18-TLB
D9191
1SS352-TRB
V+1_8V_AU
Reg:9181-9200
TP9192
R9192
0
1/10W
CONTROL
VIN
GND GND
VOUT
NC
R9191
SS
10K
C9191
YB
1.0/10
CKSRYB105K10-T
C9192
10/10
DCH1201- -T
R9193
SS
1K
R9194
SS
1K
GND
GND
AMP_CTL[0:2]
5-B1
to D-Amp
/50 :CCSSCH560J50-T
V+16_5V_AU_L
TP9183
TP9181
D9181
1SS352-TRB
V+12V_AU
TP9182
R9184
22
IC9181
NJM78M12DL1A-TLB
IN
OUT
GND
C9181
YB
0.1/25
CKSRYB104K25-T
C9182
47/25
CEHVKW470M25-TRB
C9183
47/25
CEHVKW470M25-TRB
C9184
YB
SS
6800P/25
CKSSYB682K25-T
105
GND


AIR_SIF
1-B1, 1-B3, 1-B5
from BOARD_IF
C9137
0.01/16
CKSSYB103K16-T
10/10
DCH1201- -T
C9141
CH
SS
22P/50
CCSSCH220J50-T
C9142
CH
SS
22P/50
CCSSCH220J50-T
X9101
ASS1217- -T
20.25MHZ
R9130
SS
1M
R9129
SS
2.2K
C9143
YB
SS
0.01/16
CKSSYB103K16-T
V+3_3V_AU_D
C9144
10/10
DCH1201- -T
R9148
SS
0
R9150
SS
0
R9149
SS
0
R9147
SS
0
PWM[0:3]
5-B1
to D-Amp
PWM[0:3]
C9145
YB
SS
0.01/16
CKSSYB103K16-T
C9146
10/16
DCH1165- -T
V+8V_AU
C9147
YB
SS
0.01/16
CKSSYB103K16-T
R9146
0
1/10W
C9148
10/16
DCH1165- -T
V+12V_AU
R9167
SS
47K
C9107
2.2/10
CCG1205- -T
Q9101
2SC4081(QR)-TLB
SUB_WOOFER
3-C2
to IO_2
R9169
SS
47K
R9171
SS
4.7K
GND
C9106
2.2/10
CCG1205- -T
R9122
SS
220
MON_OUT_R
4-D6
C9105
2.2/10
CCG1205- -T
R9121
SS
220
MON_OUT_L
4-D6
to OWN

| | USED | VACANT |
|---|---|---|
| C | 9105-9107, 9109-9138, 9141-9148, 9151-9155, 9157, 9158, 9181-9184, 9191, 9192, 9195, 9196, 9199, 9200 | 9195, 9196, 9199, 9200 |
| D | 9001, 9181, 9191 | |
| IC | 9101, 9151, 9181, 9191 | |
| Q | 9001, 9101 | |
| R | 9117, 9120-9122, 9125, 9126, 9129-9139, 9141-9160, 9167, 9169, 9171, 9184, 9191-9194 9105, 9106, 9119 | 9105, 9106, 9119 |
| X | 9101 | |


20
MON_OUT_R
19
MON_OUT_L
R9159
SS
33K
R9160
SS
33K
V+12V_AU
C9155
YB
SS
6800P/25
4dB Amp
MONITOR_OUT
C9153
10/16
DCH1165- -T
R9151
SS
47K
C9157
CH
SS
15P/50
IC9151
BA4560RF-TBB
A OUTPUT
A-INPUT
A+INPUT
V-
V+
B OUTPUT
B-INPUT
B+INPUT
C9158
CH
SS
15P/50
R9152
SS
47K
C9154
10/16
DCH1165- -T
GND
R9153
SS
56K
R9154
SS
56K
GND
R9155
SS
100K
R9157
SS
56K
C9151
10/10
DCH1201- -T
GND
C9152
10/10
DCH1201- -T
R9158
SS
56K
R9156
SS
100K
GND
MON_OUT_R
4-C4
MON_OUT_L
4-C4
from OWN

MSP:9101-9200

RESERVE (EU)
R9104-R9110
R9114

R9124
R9127-R9130
R9140

C9108

C9130
C9139-C9140
C9149-C9150

TP9102
TP9106-TP9108
TP9119-TP9120
TP9121-TP9130
TP9131-TP9133
TP9135-TP9138
TP9140-TP9150

4dBAmp:9151-9180

RESERVE

R9161-R9180

C9156
C9159-C9180
TP9151-TP9180

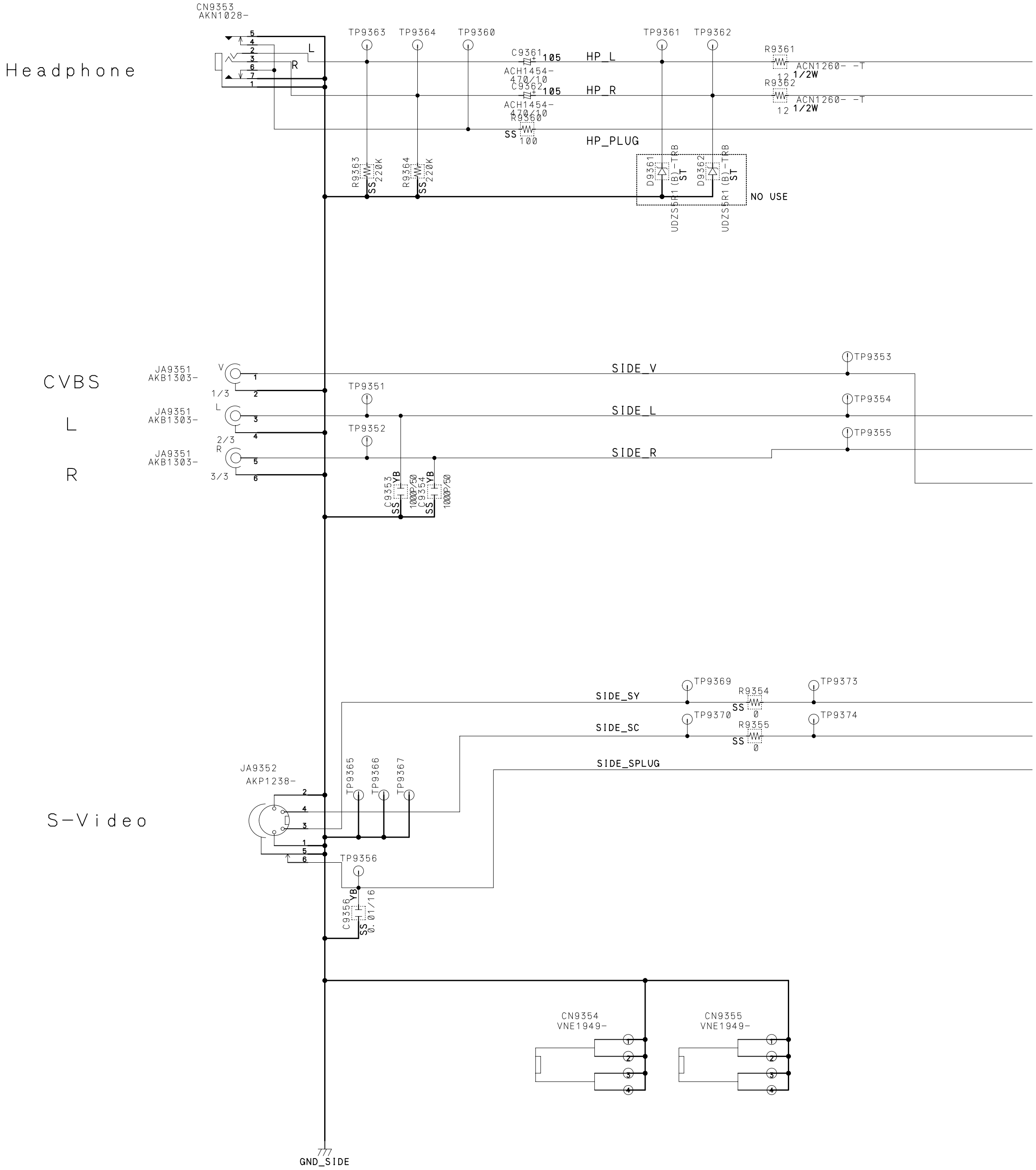
RS
ed in Ω, ±5%, 1/16W Tolerance
therwise noted, k:kΩ, M:MΩ.
ORS
ed in Capacity(µF)/Voltage(V)
therwise noted. p:pF
on without voltage is 50V
lectrolytic capacitor.

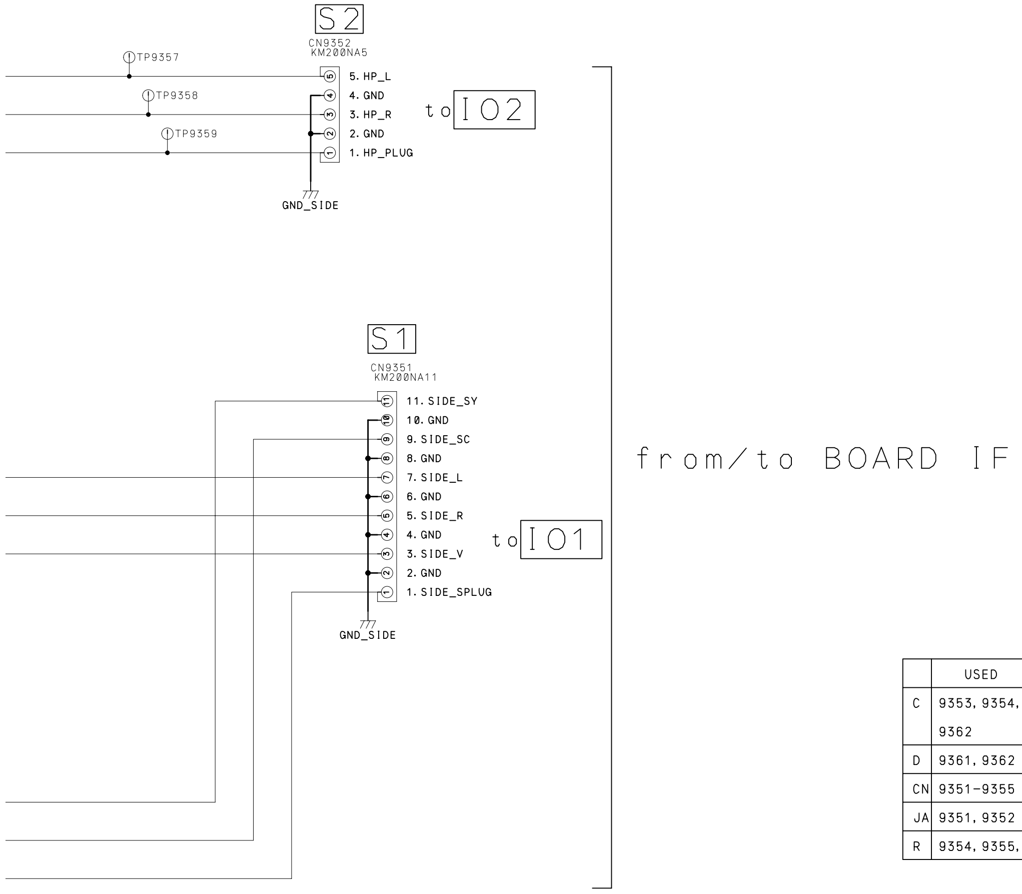
ark found on some component parts
e replaced with same parts(safety
on authorized) of identical designation.

FUKUGO ASS'Y (IBD) (4/8)
TANSHI ASS'Y
MSP

AWV2488-
AWW1255
A04W1255

# 9.25 SIDE IO ASSY


Headphone
CN9353
AKN1028-
TP9363
TP9364
TP9360
C9361
105
ACH1454-
470/10
C9362
105
ACH1454-
470/10
R9360
SS
100
HP_L
HP_R
HP_PLUG
TP9361
TP9362
R9361
12
1/2W
ACN1260- -T
R9362
12
1/2W
ACN1260- -T
R9363
SS
220K
R9364
SS
220K
D9361
UDZS5R1(B)-TRB
ST
D9362
UDZS5R1(B)-TRB
ST
NO USE
CVBS
L
R
JA9351
AKB1303-
V
1/3
L
2/3
R
3/3
TP9351
TP9352
SIDE_V
SIDE_L
SIDE_R
TP9353
TP9354
TP9355
C9353
SS
YB
1000P/50
C9354
SS
YB
1000P/50
S-Video
JA9352
AKP1238-
TP9365
TP9366
TP9367
TP9356
C9356
SS
YB
0.01/16
SIDE_SY
SIDE_SC
SIDE_SPLUG
TP9369
TP9370
R9354
SS
0
R9355
SS
0
TP9373
TP9374
CN9354
VNE1949-
CN9355
VNE1949-
GND_SIDE


S2
CN9352
KM200NA5
TP9357
TP9358
TP9359
5. HP_L
4. GND
3. HP_R
2. GND
1. HP_PLUG
to IO2
GND_SIDE
S1
CN9351
KM200NA11
11. SIDE_SY
10. GND
9. SIDE_SC
8. GND
7. SIDE_L
6. GND
5. SIDE_R
4. GND
3. SIDE_V
2. GND
1. SIDE_SPLUG
to IO1
GND_SIDE
from/to BOARD IF

| | USED | VACANT |
|---|---|---|
| C | 9353, 9354, 9356, 9361,<br>9362 | |
| D | 9361, 9362 | 9361, 9362 |
| CN | 9351-9355 | |
| JA | 9351, 9352 | |
| R | 9354, 9355, 9360-9364 | |

NOTES

RESISTORS
RS1/16S***J-T
SS RS1/16SS***J-T
F SS RS1/16SS****F-T

CAPACITORS
SS YB CKSSYB***K**-T

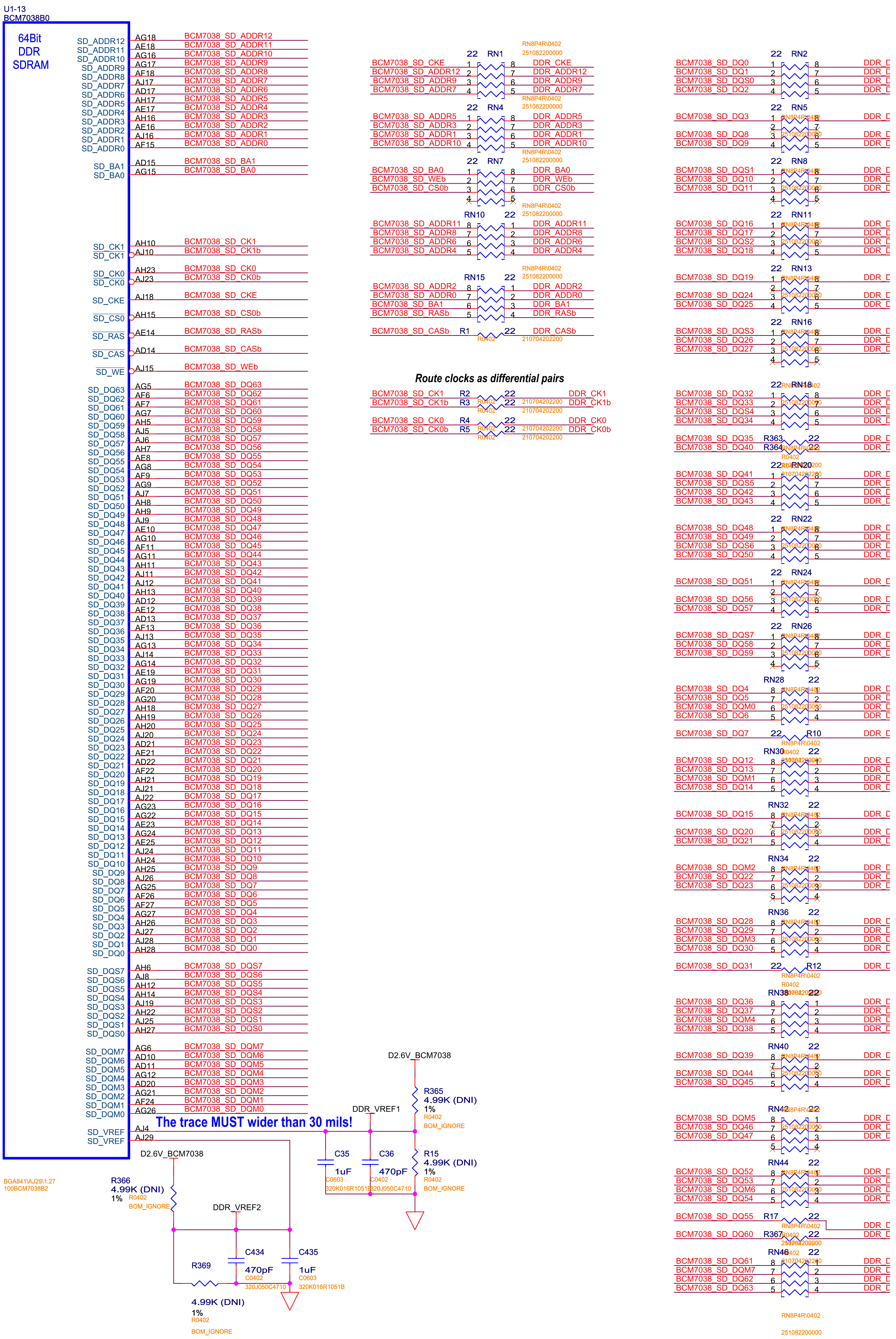
* RESISTORS
Indicated in Ω, ±5%, 1/16W Tolerance unless otherwise noted, k: kΩ, M: MΩ.
* CAPACITORS
Indicated in Capacity(μF)/Voltage(V) unless otherwise noted. p: pF
Indication without voltage is 50V except electrolytic capacitor.

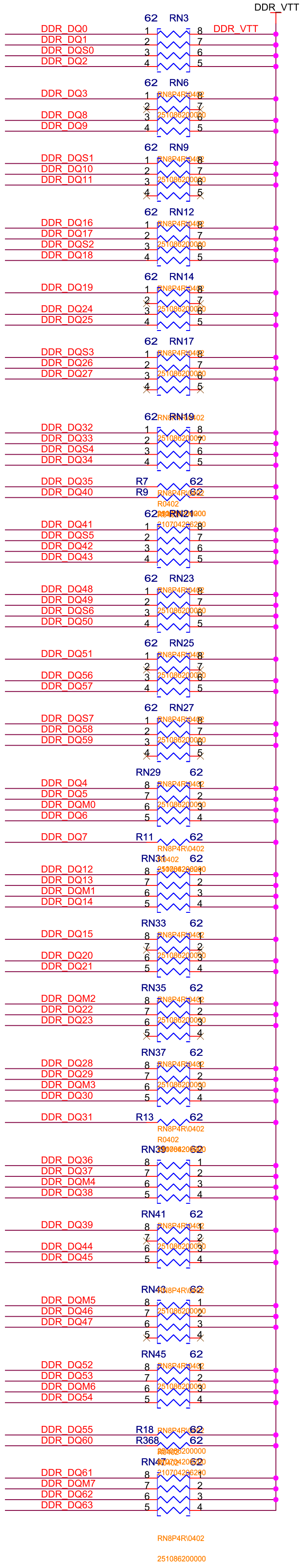
The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

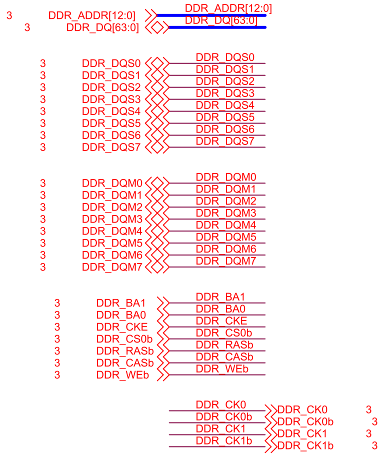
FUKUGO ASS'Y (IBD) (6/8)
SIDE IO ASS'Y

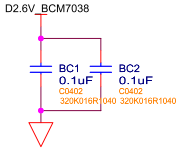
AWV2488-
AWW1259

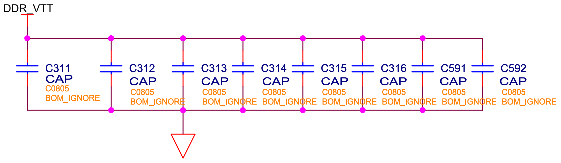
# 9.26 DTV TUNER BOARD (1/16) [DDR TERM/CONN BLOCK]

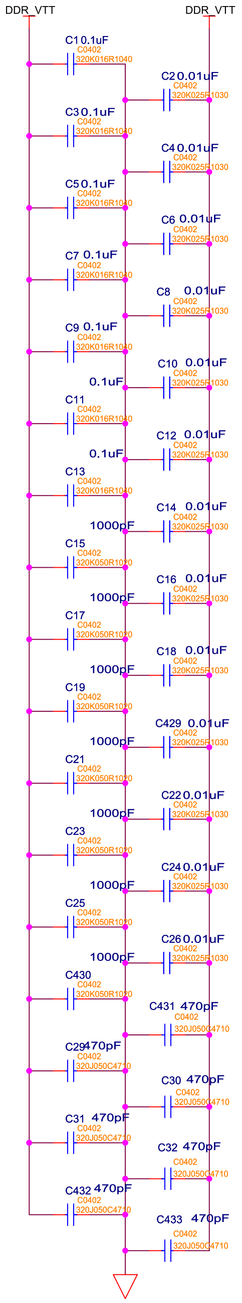

U1-13
BCM7038B0
64Bit
DDR
SDRAM
SD_ADDR12
SD_ADDR11
SD_ADDR10
SD_ADDR9
SD_ADDR8
SD_ADDR7
SD_ADDR6
SD_ADDR5
SD_ADDR4
SD_ADDR3
SD_ADDR2
SD_ADDR1
SD_ADDR0
SD_BA1
SD_BA0
SD_CK1
SD_CK0
SD_CKE
SD_CS0
SD_RAS
SD_CAS
SD_WE
SD_DQ63
SD_DQ0
SD_DQS7
SD_DQS0
SD_DQM7
SD_DQM0
SD_VREF
BCM7038_SD_ADDR12
BCM7038_SD_BA1
BCM7038_SD_BA0
BCM7038_SD_CK1
BCM7038_SD_CK1b
BCM7038_SD_CK0
BCM7038_SD_CK0b
BCM7038_SD_CKE
BCM7038_SD_CS0b
BCM7038_SD_RASb
BCM7038_SD_CASb
BCM7038_SD_WEb
BCM7038_SD_DQ63
BCM7038_SD_DQ0
BCM7038_SD_DQS7
BCM7038_SD_DQS0
BCM7038_SD_DQM7
BCM7038_SD_DQM0
RN1
RN4
RN7
RN10
RN15
22
RN8P4R\0402
251082200000
DDR_CKE
DDR_ADDR12
DDR_ADDR9
DDR_ADDR7
DDR_ADDR5
DDR_ADDR3
DDR_ADDR1
DDR_ADDR10
DDR_BA0
DDR_WEb
DDR_CS0b
DDR_ADDR11
DDR_ADDR8
DDR_ADDR6
DDR_ADDR4
DDR_ADDR2
DDR_ADDR0
DDR_BA1
DDR_RASb
DDR_CASb
R1
R0402
210704202200
Route clocks as differential pairs
R2
R3
R4
R5
DDR_CK1
DDR_CK1b
DDR_CK0
DDR_CK0b
RN2
RN5
RN8
RN11
RN13
RN16
RN18
R363
R364
RN20
RN22
RN24
RN26
RN28
R10
RN30
RN32
RN34
RN36
R12
RN38
RN40
RN42
RN44
R17
R367
RN46
D2.6V_BCM7038
R365
4.99K (DNI)
1%
R0402
BOM_IGNORE
DDR_VREF1
The trace MUST wider than 30 mils!
C35
1uF
C0603
320K016R1051B
C36
470pF
C0402
320J050C4710
R15
4.99K (DNI)
1%
R366
DDR_VREF2
C434
470pF
C435
1uF
R369
4.99K (DNI)
1%
BGA841\AJ29\1.27
100BCM7038B2


DDR_VTT
62 RN3
DDR_DQ0
DDR_DQ1
DDR_DQS0
DDR_DQ2
DDR_VTT
62 RN6
DDR_DQ3
DDR_DQ8
DDR_DQ9
62 RN9
DDR_DQS1
DDR_DQ10
DDR_DQ11
62 RN12
DDR_DQ16
DDR_DQ17
DDR_DQS2
DDR_DQ18
62 RN14
DDR_DQ19
DDR_DQ24
DDR_DQ25
62 RN17
DDR_DQS3
DDR_DQ26
DDR_DQ27
62 RN19
DDR_DQ32
DDR_DQ33
DDR_DQS4
DDR_DQ34
DDR_DQ35 R7 62
DDR_DQ40 R9 62
R0402
62 RN21
DDR_DQ41
DDR_DQS5
DDR_DQ42
DDR_DQ43
62 RN23
DDR_DQ48
DDR_DQ49
DDR_DQS6
DDR_DQ50
62 RN25
DDR_DQ51
DDR_DQ56
DDR_DQ57
62 RN27
DDR_DQS7
DDR_DQ58
DDR_DQ59
RN29 62
DDR_DQ4
DDR_DQ5
DDR_DQM0
DDR_DQ6
DDR_DQ7 R11 62
RN8P4R0402
RN31 62
DDR_DQ12
DDR_DQ13
DDR_DQM1
DDR_DQ14
RN33 62
DDR_DQ15
DDR_DQ20
DDR_DQ21
RN35 62
DDR_DQM2
DDR_DQ22
DDR_DQ23
RN37 62
DDR_DQ28
DDR_DQ29
DDR_DQM3
DDR_DQ30
DDR_DQ31 R13 62
RN8P4R0402
R0402
RN39 62
DDR_DQ36
DDR_DQ37
DDR_DQM4
DDR_DQ38
RN41 62
DDR_DQ39
DDR_DQ44
DDR_DQ45
RN43 62
DDR_DQM5
DDR_DQ46
DDR_DQ47
RN45 62
DDR_DQ52
DDR_DQ53
DDR_DQM6
DDR_DQ54
DDR_DQ55 R18 62
DDR_DQ60 R368 62
RN47 62
DDR_DQ61
DDR_DQM7
DDR_DQ62
DDR_DQ63
RN8P4R0402
251086200000


3 DDR_ADDR[12:0]
3 DDR_DQ[63:0]
DDR_ADDR[12:0]
DDR_DQ[63:0]
3 DDR_DQS0
3 DDR_DQS1
3 DDR_DQS2
3 DDR_DQS3
3 DDR_DQS4
3 DDR_DQS5
3 DDR_DQS6
3 DDR_DQS7
DDR_DQS0
DDR_DQS1
DDR_DQS2
DDR_DQS3
DDR_DQS4
DDR_DQS5
DDR_DQS6
DDR_DQS7
3 DDR_DQM0
3 DDR_DQM1
3 DDR_DQM2
3 DDR_DQM3
3 DDR_DQM4
3 DDR_DQM5
3 DDR_DQM6
3 DDR_DQM7
DDR_DQM0
DDR_DQM1
DDR_DQM2
DDR_DQM3
DDR_DQM4
DDR_DQM5
DDR_DQM6
DDR_DQM7
3 DDR_BA1
3 DDR_BA0
3 DDR_CKE
3 DDR_CS0b
3 DDR_RASb
3 DDR_CASb
3 DDR_WEb
DDR_BA1
DDR_BA0
DDR_CKE
DDR_CS0b
DDR_RASb
DDR_CASb
DDR_WEb
DDR_CK0
DDR_CK0b
DDR_CK1
DDR_CK1b
DDR_CK0 3
DDR_CK0b 3
DDR_CK1 3
DDR_CK1b 3


D2.6V_BCM7038
BC1
0.1uF
C0402
320K016R1040
BC2
0.1uF
C0402
320K016R1040


DDR_VTT
C311 CAP C0805 BOM_IGNORE
C312 CAP C0805 BOM_IGNORE
C313 CAP C0805 BOM_IGNORE
C314 CAP C0805 BOM_IGNORE
C315 CAP C0805 BOM_IGNORE
C316 CAP C0805 BOM_IGNORE
C591 CAP C0805 BOM_IGNORE
C592 CAP C0805 BOM_IGNORE


DDR_VTT
DDR_VTT
C1 0.1uF
C2 0.01uF
C3 0.1uF
C4 0.01uF
C5 0.1uF
C6 0.01uF
C7 0.1uF
C8 0.01uF
C9 0.1uF
C10 0.01uF
C11 0.1uF
C12 0.01uF
C13 0.1uF
C14 0.01uF
C15 1000pF
C16 0.01uF
C17 1000pF
C18 0.01uF
C19 1000pF
C429 0.01uF
C21 1000pF
C22 0.01uF
C23 1000pF
C24 0.01uF
C25 1000pF
C26 0.01uF
C430 1000pF
C431 470pF
C29 470pF
C30 470pF
C31 470pF
C32 470pF
C432 470pF
C433 470pF
C0402
320K016R1040
320K025R1030
320K050R1020
320J050C4710

*New DDR routing rules:*

*-------------------------------*

*All timing is relative the CLK/CLKb that arrive at the destination DDR SDRAM chip.*

*1) X = CLK/CLKb should be a matched differential pair with a length < 4"*

*2) Address and control should be X +/- 0.75" (or 100 ps)*
*3) DQS and DQM should be X +/- 0.75" (or 100 ps)*
*4) All DQs should match corresponding byte lane DQS/DQMs within +/- 0.20" (or 30 ps)*

*5) Place 22 ohm resisters on this page near BCM7038.*

*6) Place 62 ohm resisters for DQ signals midpoint between BCM7038 and DDR SDRAM*

*7) Place DDR_VREF1/2 resistor dividers near BCM7038*

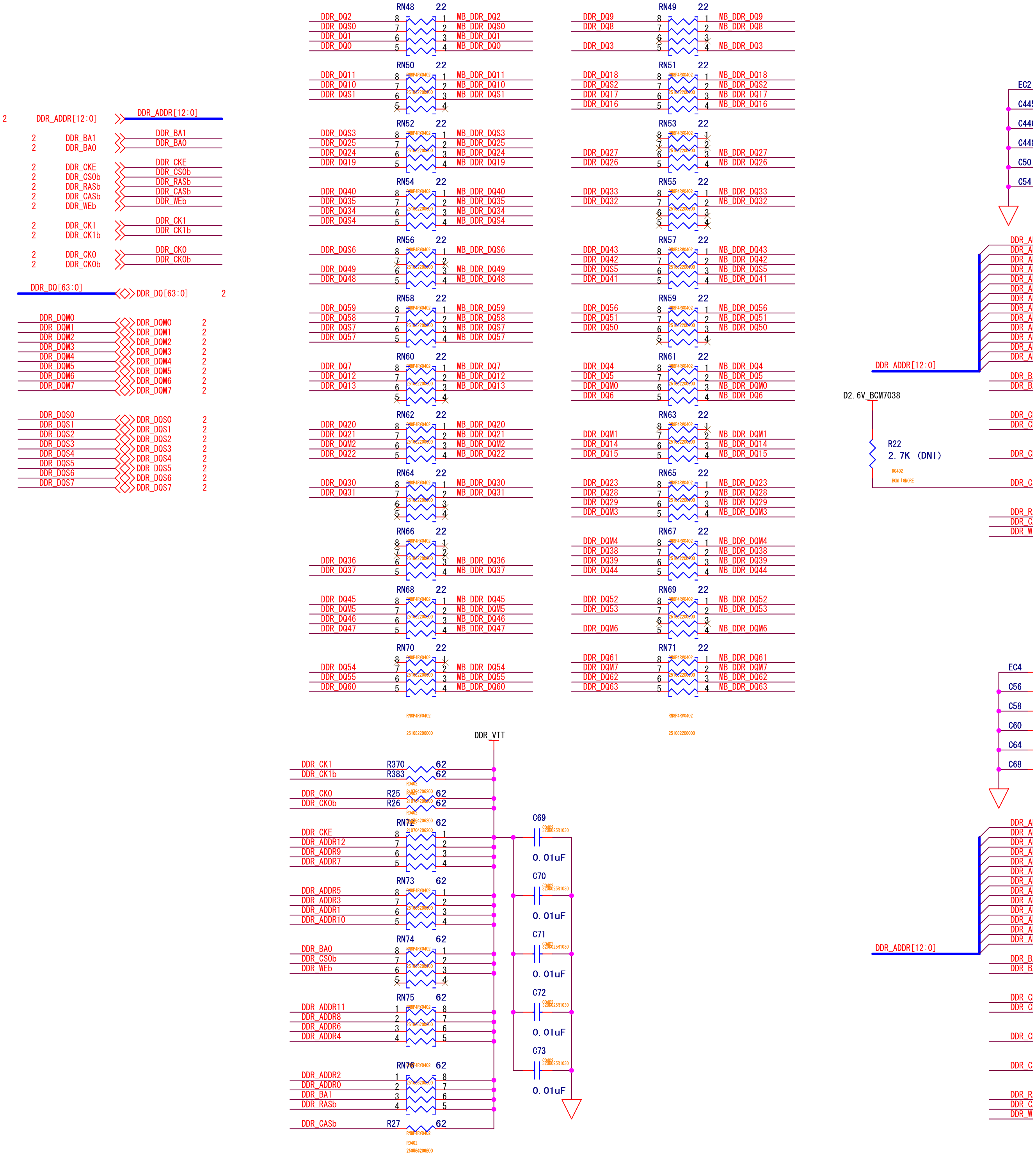
*8) Trace impedances need to be 60 ohms +/- 10% (54-66 ohms)*

*9) Route VREF with 30-mil trace and at least 1 high quality ceramic bypass capacitor for each connection to a device.*

*10) All traces should have a >= 3 to 1 spacing ratio fom the reference GND/PWR layer. (e.g. 15 mil line-to-line spacing for a 5 mil dielectric thickness)*

DDR TERM/CONN

# 9.27 DTV TUNER BOARD (2/16) [DDR-SDRAM BLOCK]



2 DDR_ADDR[12:0]
DDR_ADDR[12:0]
DDR_BA1
DDR_BA0
DDR_CKE
DDR_CS0b
DDR_RASb
DDR_CASb
DDR_WEb
DDR_CK1
DDR_CK1b
DDR_CK0
DDR_CK0b
DDR_DQ[63:0]
DDR_DQM0
DDR_DQM1
DDR_DQM2
DDR_DQM3
DDR_DQM4
DDR_DQM5
DDR_DQM6
DDR_DQM7
DDR_DQS0
DDR_DQS1
DDR_DQS2
DDR_DQS3
DDR_DQS4
DDR_DQS5
DDR_DQS6
DDR_DQS7
RN48 22
RN49 22
RN50 22
RN51 22
RN52 22
RN53 22
RN54 22
RN55 22
RN56 22
RN57 22
RN58 22
RN59 22
RN60 22
RN61 22
RN62 22
RN63 22
RN64 22
RN65 22
RN66 22
RN67 22
RN68 22
RN69 22
RN70 22
RN71 22
MB_DDR_DQ2
MB_DDR_DQS0
MB_DDR_DQ1
MB_DDR_DQ0
MB_DDR_DQ9
MB_DDR_DQ8
MB_DDR_DQ3
MB_DDR_DQ11
MB_DDR_DQ10
MB_DDR_DQS1
MB_DDR_DQ18
MB_DDR_DQS2
MB_DDR_DQ17
MB_DDR_DQ16
MB_DDR_DQS3
MB_DDR_DQ25
MB_DDR_DQ24
MB_DDR_DQ19
MB_DDR_DQ27
MB_DDR_DQ26
MB_DDR_DQ40
MB_DDR_DQ35
MB_DDR_DQ34
MB_DDR_DQS4
MB_DDR_DQ33
MB_DDR_DQ32
MB_DDR_DQS6
MB_DDR_DQ49
MB_DDR_DQ48
MB_DDR_DQ43
MB_DDR_DQ42
MB_DDR_DQS5
MB_DDR_DQ41
MB_DDR_DQ59
MB_DDR_DQ58
MB_DDR_DQS7
MB_DDR_DQ57
MB_DDR_DQ56
MB_DDR_DQ51
MB_DDR_DQ50
MB_DDR_DQ7
MB_DDR_DQ12
MB_DDR_DQ13
MB_DDR_DQ4
MB_DDR_DQ5
MB_DDR_DQM0
MB_DDR_DQ6
MB_DDR_DQ20
MB_DDR_DQ21
MB_DDR_DQM2
MB_DDR_DQ22
MB_DDR_DQM1
MB_DDR_DQ14
MB_DDR_DQ15
MB_DDR_DQ30
MB_DDR_DQ31
MB_DDR_DQ23
MB_DDR_DQ28
MB_DDR_DQ29
MB_DDR_DQM3
MB_DDR_DQ36
MB_DDR_DQ37
MB_DDR_DQM4
MB_DDR_DQ38
MB_DDR_DQ39
MB_DDR_DQ44
MB_DDR_DQ45
MB_DDR_DQM5
MB_DDR_DQ46
MB_DDR_DQ47
MB_DDR_DQ52
MB_DDR_DQ53
MB_DDR_DQM6
MB_DDR_DQ54
MB_DDR_DQ55
MB_DDR_DQ60
MB_DDR_DQ61
MB_DDR_DQM7
MB_DDR_DQ62
MB_DDR_DQ63
DDR_VTT
R370 62
R383 62
R25 62
R26 62
RN72 62
RN73 62
RN74 62
RN75 62
RN76 62
R27 62
DDR_ADDR12
DDR_ADDR9
DDR_ADDR7
DDR_ADDR5
DDR_ADDR3
DDR_ADDR1
DDR_ADDR10
DDR_ADDR11
DDR_ADDR8
DDR_ADDR6
DDR_ADDR4
DDR_ADDR2
DDR_ADDR0
C69
0.01uF
C70
0.01uF
C71
0.01uF
C72
0.01uF
C73
0.01uF
EC2
C45
C46
C48
C50
C54
D2.6V_BCM7038
R22
2.7K (DNI)
EC4
C56
C58
C60
C64
C68

DDR routing rules:

-------------------------------

1) DQ/DQM skew within byte lane (DQ[15:0], DQ[31:16], DQ[47:32], DQ[48:63]) should be +/-100 mil w.r.t DQS

2) DQS delay for a particular bytelane shall be +/-250 mil w.r.t clk

3) DQS skew across all bytelanes should be less than 250 mil

4) Address & cntrl shall be +/-500 mil w.r.t clk

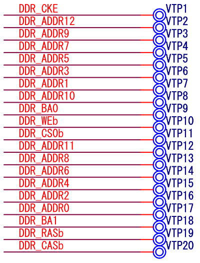
5) Place 22 ohm resisters on this page near DDR SDRAM.

6) Place 51 ohm resisters for Addr/Cntrl signals at the end of the line near the DDR SDRAM

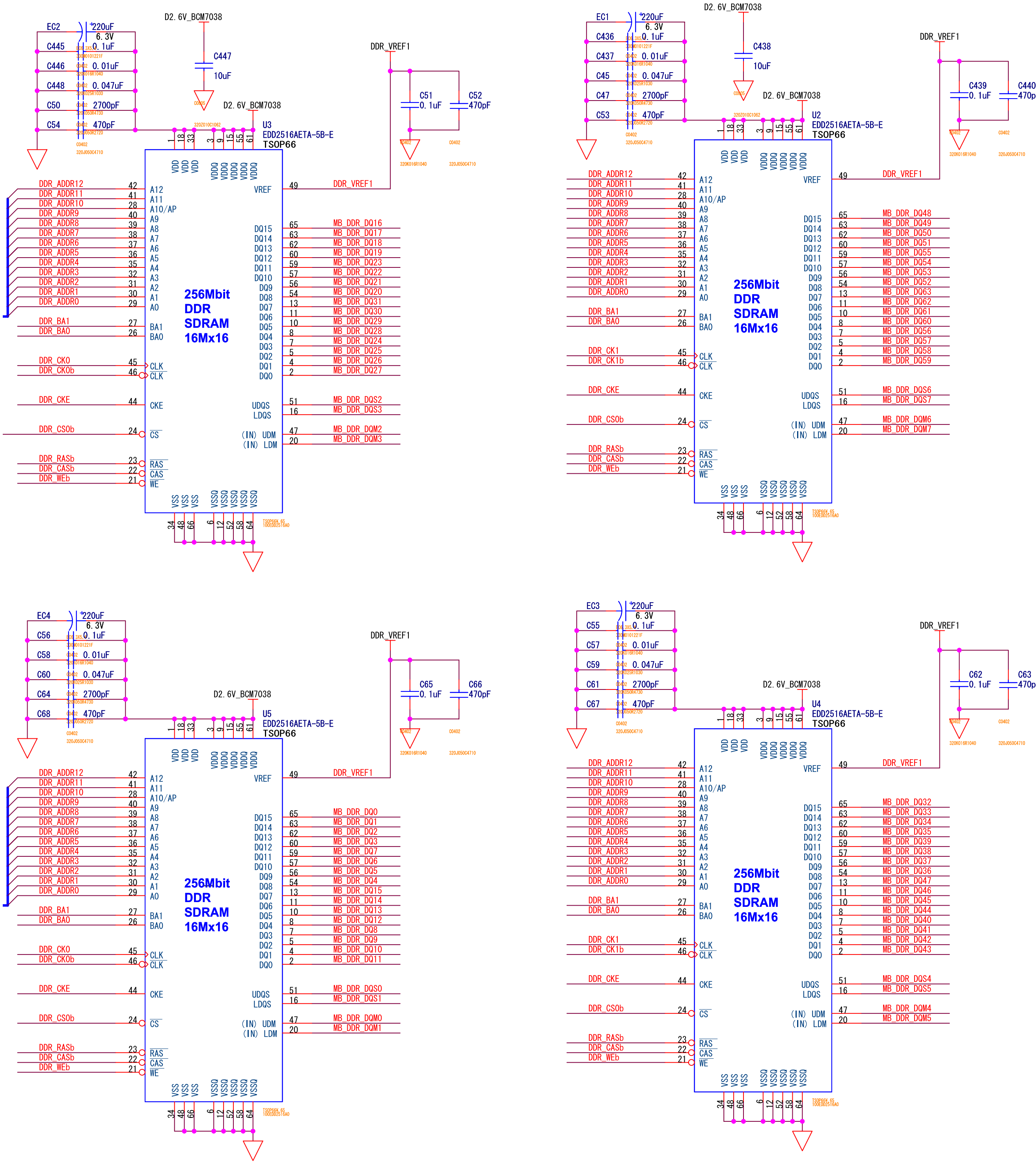
7) Place DDR_VREF resistor dividers near BCM7038

8) Trace impedances need to be 60 ohms +/- 10% (54-66 ohms)

9) Route VREF with 30-mil trace and 1 high quality ceramic bypass capacitor for each connection to a device.



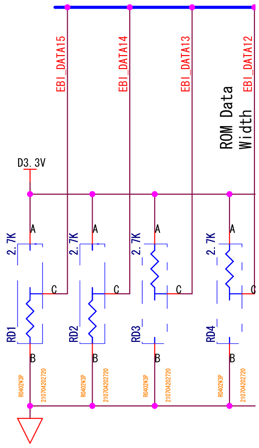
DDR_CKE VTP1
DDR_ADDR12 VTP2
DDR_ADDR9 VTP3
DDR_ADDR7 VTP4
DDR_ADDR5 VTP5
DDR_ADDR3 VTP6
DDR_ADDR1 VTP7
DDR_ADDR10 VTP8
DDR_BA0 VTP9
DDR_WEb VTP10
DDR_CS0b VTP11
DDR_ADDR11 VTP12
DDR_ADDR8 VTP13
DDR_ADDR6 VTP14
DDR_ADDR4 VTP15
DDR_ADDR2 VTP16
DDR_ADDR0 VTP17
DDR_BA1 VTP18
DDR_RASb VTP19
DDR_CASb VTP20

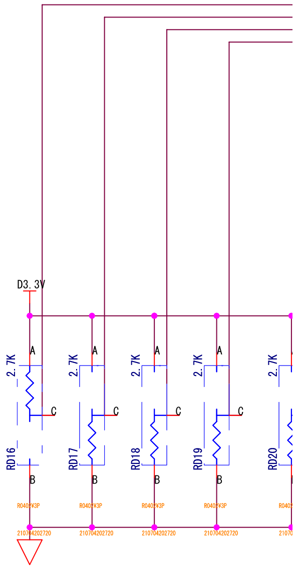

EC2
220uF
6.3V
C445
0.1uF
C446
0.01uF
C448
0.047uF
C50
2700pF
C54
470pF
D2.6V_BCM7038
C447
10uF
DDR_VREF1
C51
0.1uF
C52
470pF
U3
EDD2516AETA-5B-E
TSOP66
256Mbit
DDR
SDRAM
16Mx16
DDR_ADDR12
DDR_ADDR11
DDR_ADDR10
DDR_ADDR9
DDR_ADDR8
DDR_ADDR7
DDR_ADDR6
DDR_ADDR5
DDR_ADDR4
DDR_ADDR3
DDR_ADDR2
DDR_ADDR1
DDR_ADDR0
DDR_BA1
DDR_BA0
DDR_CK0
DDR_CK0b
DDR_CKE
DDR_CS0b
DDR_RASb
DDR_CASb
DDR_WEb
A12
A11
A10/AP
A9
A8
A7
A6
A5
A4
A3
A2
A1
A0
BA1
BA0
CLK
CLK
CKE
CS
RAS
CAS
WE
VDD
VDDQ
VSS
VSSQ
VREF
DQ15
DQ14
DQ13
DQ12
DQ11
DQ10
DQ9
DQ8
DQ7
DQ6
DQ5
DQ4
DQ3
DQ2
DQ1
DQ0
UDQS
LDQS
(IN) UDM
(IN) LDM
MB_DDR_DQ16
MB_DDR_DQ17
MB_DDR_DQ18
MB_DDR_DQ19
MB_DDR_DQ23
MB_DDR_DQ22
MB_DDR_DQ21
MB_DDR_DQ20
MB_DDR_DQ31
MB_DDR_DQ30
MB_DDR_DQ29
MB_DDR_DQ28
MB_DDR_DQ24
MB_DDR_DQ25
MB_DDR_DQ26
MB_DDR_DQ27
MB_DDR_DQS2
MB_DDR_DQS3
MB_DDR_DQM2
MB_DDR_DQM3
EC1
220uF
6.3V
C436
0.1uF
C437
0.01uF
C45
0.047uF
C47
2700pF
C53
470pF
D2.6V_BCM7038
C438
10uF
DDR_VREF1
C439
0.1uF
C440
470pF
U2
EDD2516AETA-5B-E
TSOP66
256Mbit
DDR
SDRAM
16Mx16
DDR_CK1
DDR_CK1b
MB_DDR_DQ48
MB_DDR_DQ49
MB_DDR_DQ50
MB_DDR_DQ51
MB_DDR_DQ55
MB_DDR_DQ54
MB_DDR_DQ53
MB_DDR_DQ52
MB_DDR_DQ63
MB_DDR_DQ62
MB_DDR_DQ61
MB_DDR_DQ60
MB_DDR_DQ56
MB_DDR_DQ57
MB_DDR_DQ58
MB_DDR_DQ59
MB_DDR_DQS6
MB_DDR_DQS7
MB_DDR_DQM6
MB_DDR_DQM7
EC4
220uF
6.3V
C56
0.1uF
C58
0.01uF
C60
0.047uF
C64
2700pF
C68
470pF
D2.6V_BCM7038
DDR_VREF1
C65
0.1uF
C66
470pF
U5
EDD2516AETA-5B-E
TSOP66
256Mbit
DDR
SDRAM
16Mx16
MB_DDR_DQ0
MB_DDR_DQ1
MB_DDR_DQ2
MB_DDR_DQ3
MB_DDR_DQ7
MB_DDR_DQ6
MB_DDR_DQ5
MB_DDR_DQ4
MB_DDR_DQ15
MB_DDR_DQ14
MB_DDR_DQ13
MB_DDR_DQ12
MB_DDR_DQ8
MB_DDR_DQ9
MB_DDR_DQ10
MB_DDR_DQ11
MB_DDR_DQS0
MB_DDR_DQS1
MB_DDR_DQM0
MB_DDR_DQM1
EC3
220uF
6.3V
C55
0.1uF
C57
0.01uF
C59
0.047uF
C61
2700pF
C67
470pF
D2.6V_BCM7038
DDR_VREF1
C62
0.1uF
C63
470pF
U4
EDD2516AETA-5B-E
TSOP66
256Mbit
DDR
SDRAM
16Mx16
MB_DDR_DQ32
MB_DDR_DQ33
MB_DDR_DQ34
MB_DDR_DQ35
MB_DDR_DQ39
MB_DDR_DQ38
MB_DDR_DQ37
MB_DDR_DQ36
MB_DDR_DQ47
MB_DDR_DQ46
MB_DDR_DQ45
MB_DDR_DQ44
MB_DDR_DQ40
MB_DDR_DQ41
MB_DDR_DQ42
MB_DDR_DQ43
MB_DDR_DQS4
MB_DDR_DQS5
MB_DDR_DQM4
MB_DDR_DQM5

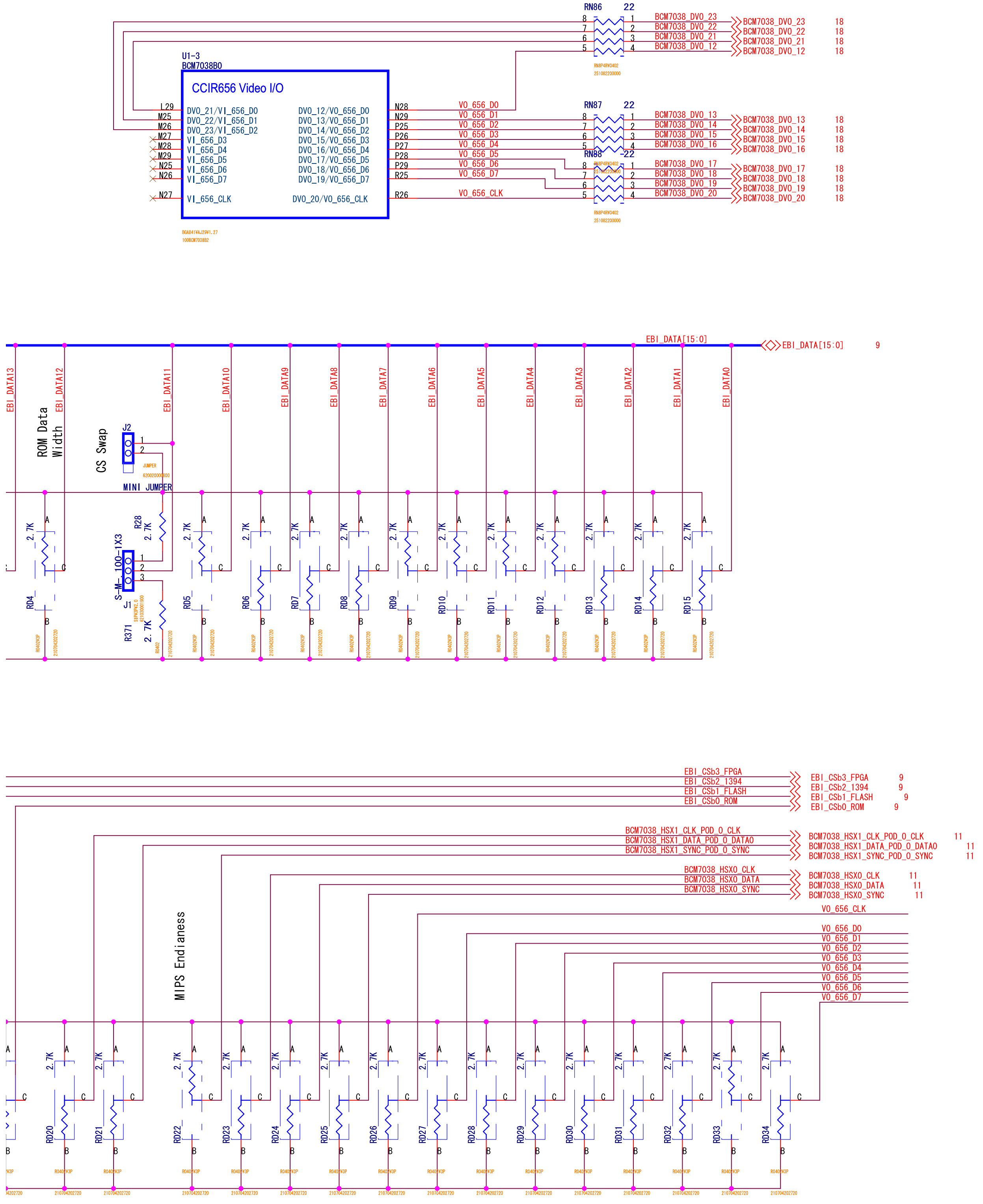
DDR-SDRAM

# 9.28 DTV TUNER BOARD (3/16) [DVO, PIN STRAPOPTION BLOCK]

| Strap Bit | Description | Pin | Default | Comments |
|---|---|---|---|---|
| strap_bypass_cpu_clk | 0: Use internal 297 MHz clock<br>1: Use external CPU clock | EBI_DATA08 | 0 | Run CPU at 297 MHz |
| strap_crit_word_seq | 0: Use sequential addressing<br>1: Use sub-block addressing | EBI_DATA00 | 0 | Default to sequential addressing though OS may need this changed |
| strap_ddr_config_1, (MSB)<br>strap_ddr_config_0 | 0: Reserved<br>1: 8Mx16 bit parts<br>2: 16Mx16 bit parts<br>3: 32Mx16 bit parts | EBI_CS3b,<br>EBI_CS2b | 10 | Per memory configuration |
| strap_ddr_config_2 | 0: 64-bit DDR mode<br>1: 32-bit DDR mode | HS_CLK1 | 0 | Usually in 64-bit mode |
| strap_ddr_ext_clock | 0: Use internal DDR PLL<br>1: Use external DDR clock | HS_DATA1 | 0 | Run internal 187 MHz clock |
| strap_ebi_big_endian | 0: EBI system is LITTLE endian<br>1: EBI system is BIG endian | EBI_DATA10 | 0 | Per system configuration |
| strap_ebi_boot_memory | 0: Boot memory is 8-bit ROM<br>1: Boot memory is 16-bit ROM | EBI_DATA12 | 0 | Per system configuration |
| strap_ebi_burst_read_en | 0: Disable EBI burst read<br>1: Enable EBI burst read | EBI_DATA01 | 0 | Usually disabled |
| strap_ebi_clock_rate | 0: Select 54 MHz for EBI clock<br>1: Select 27 MHz for EBI clock | EBI_DATA13 | 1 | Per system configuration |
| strap_ebi_cs_swap | 0: No swap<br>1: Swap CS_0 and CS_1 signals | EBI_DATA11 | 0 | Per system configuration |
| strap_ebi_mux_addr_data | 0: Don't multiplex EBI address and data<br>1: Multiplex EBI address and data | EBI_DATA14 | 0 | Usually in non-multiplex mode |
| strap_ebi_rom_size1, (MSB)<br>strap_ebi_rom_size0 | 0: 32 Mbyte ROM<br>1: 16 Mbyte ROM<br>2: 8 Mbyte ROM<br>3: 4 Mbyte ROM | EBI_DATA07,<br>EBI_DATA09 | 0 | Per system configuration |
| strap_ebi_slave | 0: EBI is in master mode<br>1: EBI is in slave mode | VOO_656_1 | 0 | Usually in master mode |
| strap_ebi_zero_addr | 0: Do not zero EBI address<br>1: Zero upper bits of EBI address | EBI_DATA02 | 0 | Usually a don't care - set to do not zero |
| strap_mclk_delay_3, (MSB)<br>strap_mclk_delay_2,<br>strap_mclk_delay_1,<br>strap_mclk_delay_0 |  | VOO_656_0,<br>HS_DATA0,<br>HS_SYNC0,<br>HS_CLK0 | 0000 | TBD |
| strap_pci_client | 0: PCI in bridge (master) mode<br>1: PCI in client (slave) mode | VOO_656_2 | 0 | Usually in master mode |
| strap_pci_gisbwin_size_1,<br>strap_pci_gisbwin_size_0 | 0: 32 Mbyte Window<br>1: 64 Mbyte Window<br>2: 128 Mbyte Window<br>3: 256 Mbyte Window | VOO_656_CLK,<br>VOO_656_7 | 00 | Per memory configuration |
| strap_pci_memwin_size_1,<br>strap_pci_memwin_size_0 | 0: 32 Mbyte Window<br>1: 64 Mbyte Window<br>2: 128 Mbyte Window<br>3: 256 Mbyte Window | VOO_656_6,<br>VOO_656_5 | 0000 | Per memory configuration |
| strap_pci_memwin1_en | 0: Disable PCI memory window 1<br>1: Enable PCI memory window 1 | VOO_656_3 | 0 | Per system configuration |
| strap_pci_memwin2_en | 0: Disable PCI memory window 2<br>1: Enable PCI memory window 2 | VOO_656_4 | 0 | Per system configuration |
| strap_spi_slave_enable | 0: BSC slave port configured<br>1: SPI slave port configured | EBI_DATA15 | 0 | Per system configuration - usually in BSC slave |
| strap_system_big_endian | 0: System is LITTLE endian<br>1: System is BIG endian | HS_SYNC1 | 0 | Per system configuration |
| strap_xtal_adj_3, (MSB)<br>strap_xtal_adj_2,<br>strap_xtal_adj_1,<br>strap_xtal_adj_0 | Adjust the 54 MHz oscillator bias current. Default is 0. | EBI_DATA06,<br>EBI_DATA05,<br>EBI_DATA04,<br>EBI_DATA03 | 1111 | Given existing Tank Circuit |
| strap_rsvd_0 | Reserved | EBI_CS0b | 0 | Default to 0 |
| strap_rsvd_1 | Reserved | EBI_CS1b | 0 | Default to 0 |

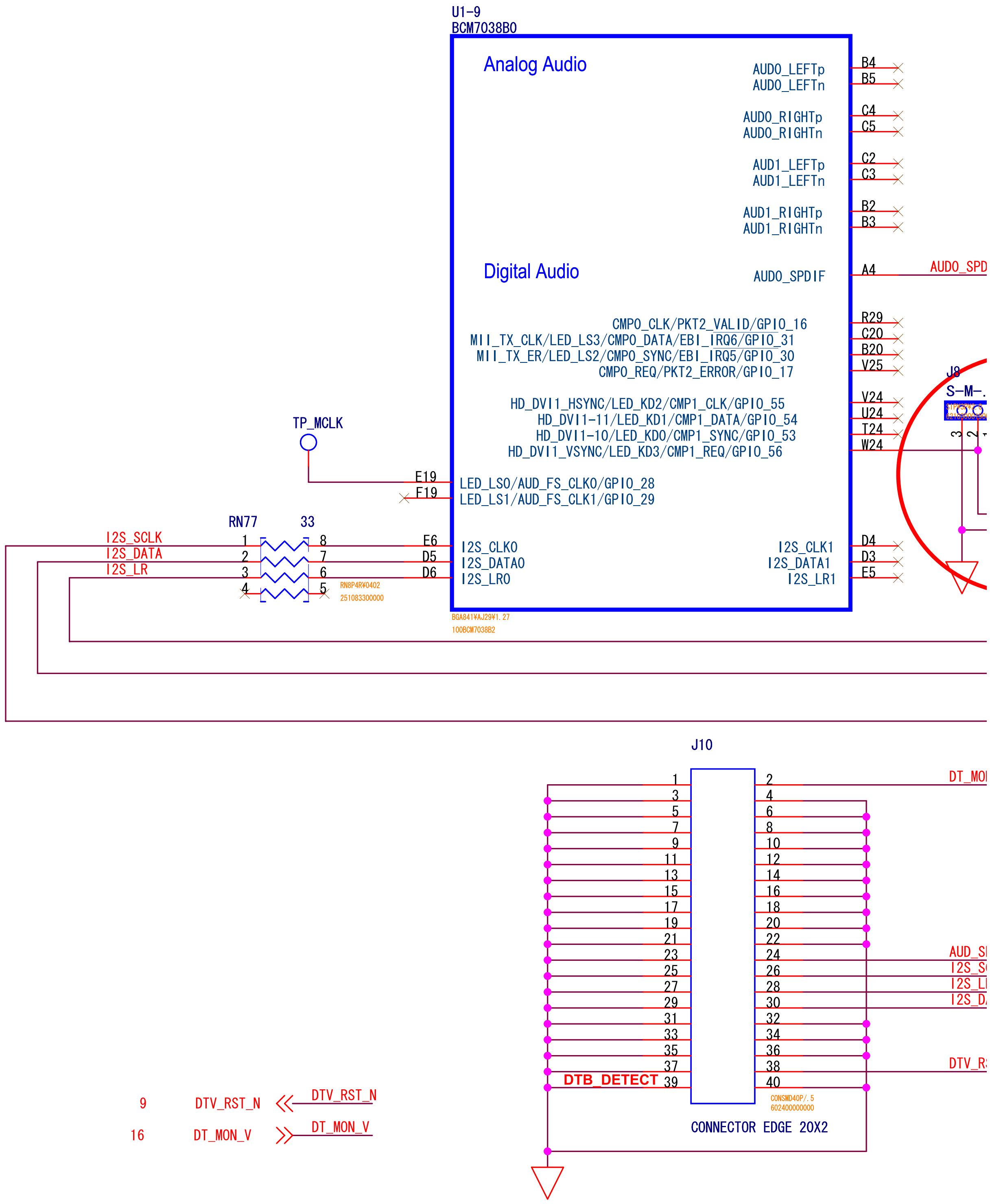


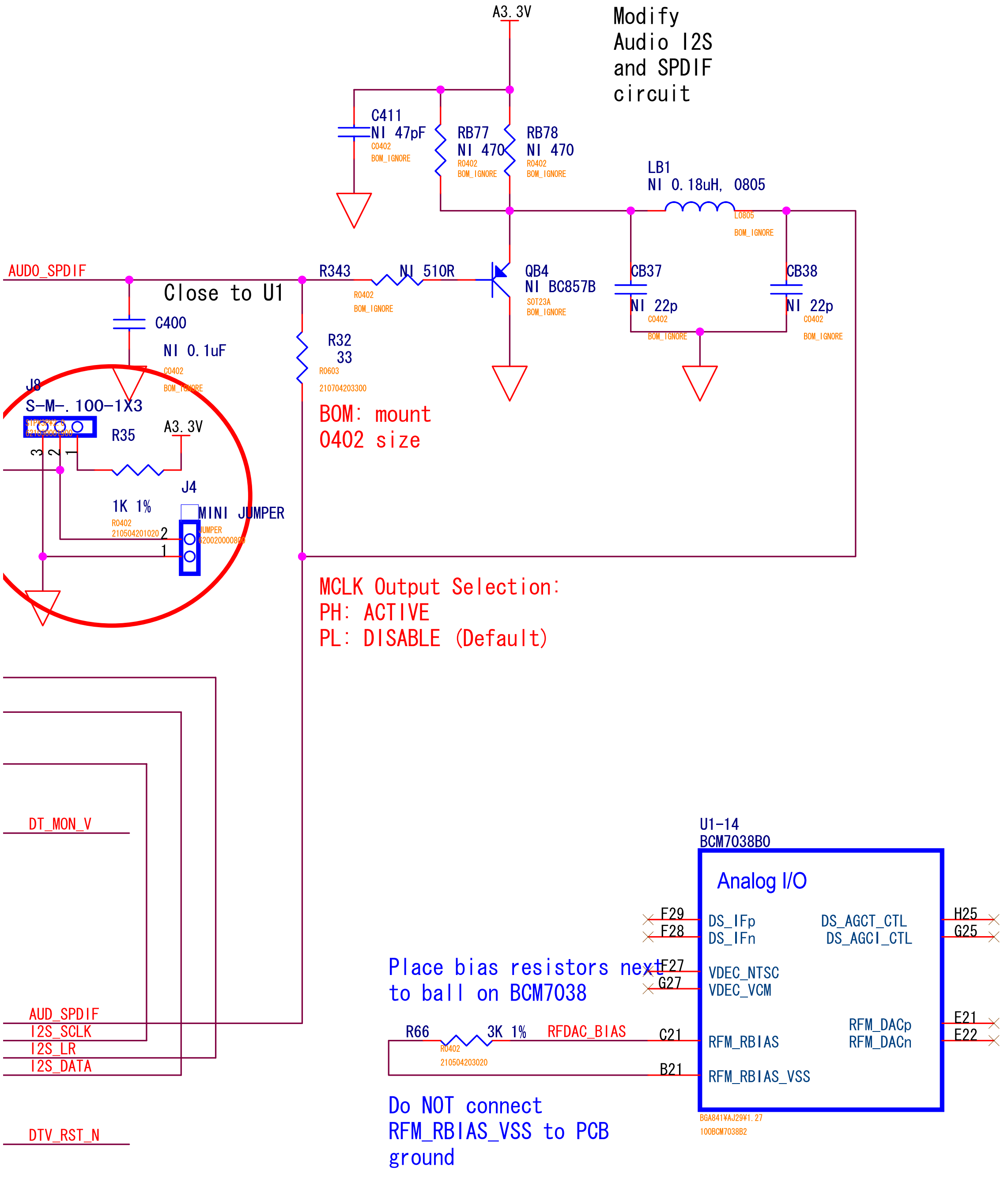



U1-3
BCM7038B0
CCIR656 Video I/O
L29
M25 DVO_21/VI_656_D0
M26 DVO_22/VI_656_D1
DVO_23/VI_656_D2
M27 VI_656_D3
M28 VI_656_D4
M29 VI_656_D5
N25 VI_656_D6
N26 VI_656_D7
N27 VI_656_CLK
DVO_12/VO_656_D0 N28
DVO_13/VO_656_D1 N29
DVO_14/VO_656_D2 P25
DVO_15/VO_656_D3 P26
DVO_16/VO_656_D4 P27
DVO_17/VO_656_D5 P28
DVO_18/VO_656_D6 P29
DVO_19/VO_656_D7 R25
DVO_20/VO_656_CLK R26
VO_656_D0
VO_656_D1
VO_656_D2
VO_656_D3
VO_656_D4
VO_656_D5
VO_656_D6
VO_656_D7
VO_656_CLK
RN86 22
RN87 22
RN88 22
BCM7038_DVO_23 18
BCM7038_DVO_22 18
BCM7038_DVO_21 18
BCM7038_DVO_12 18
BCM7038_DVO_13 18
BCM7038_DVO_14 18
BCM7038_DVO_15 18
BCM7038_DVO_16 18
BCM7038_DVO_17 18
BCM7038_DVO_18 18
BCM7038_DVO_19 18
BCM7038_DVO_20 18
EBI_DATA[15:0]
EBI_DATA[15:0] 9
EBI_DATA13
EBI_DATA12
EBI_DATA11
EBI_DATA10
EBI_DATA9
EBI_DATA8
EBI_DATA7
EBI_DATA6
EBI_DATA5
EBI_DATA4
EBI_DATA3
EBI_DATA2
EBI_DATA1
EBI_DATA0
ROM Data Width
CS Swap
J2
JUMPER
MINI JUMPER
R28 2.7K
S-M-100-1X3
J1
R371 2.7K
2.7K
RD4
RD5
RD6
RD7
RD8
RD9
RD10
RD11
RD12
RD13
RD14
RD15
EBI_CSb3_FPGA 9
EBI_CSb2_1394 9
EBI_CSb1_FLASH 9
EBI_CSb0_ROM 9
BCM7038_HSX1_CLK_POD_0_CLK 11
BCM7038_HSX1_DATA_POD_0_DATA0 11
BCM7038_HSX1_SYNC_POD_0_SYNC 11
BCM7038_HSX0_CLK 11
BCM7038_HSX0_DATA 11
BCM7038_HSX0_SYNC 11
VO_656_CLK
VO_656_D0
VO_656_D1
VO_656_D2
VO_656_D3
VO_656_D4
VO_656_D5
VO_656_D6
VO_656_D7
MIPS Endianess
RD20
RD21
RD22
RD23
RD24
RD25
RD26
RD27
RD28
RD29
RD30
RD31
RD32
RD33
RD34
A
B
C

DVO, PIN_STRAPOPTION

# 9.29 DTV TUNER BOARD (4/16) [AUDIO BUFFER BLOCK]

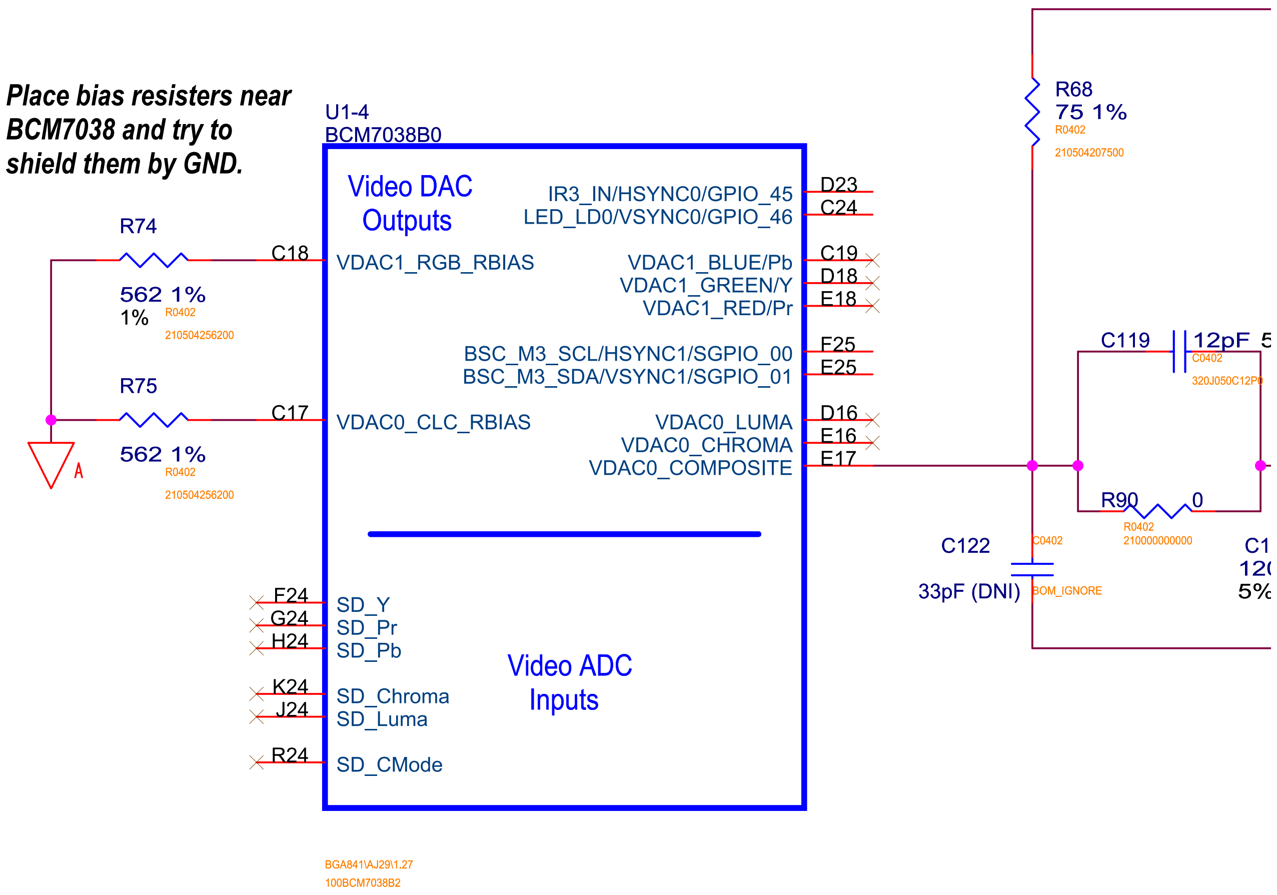

U1-9
BCM7038B0
Analog Audio
AUD0_LEFTp B4
AUD0_LEFTn B5
AUD0_RIGHTp C4
AUD0_RIGHTn C5
AUD1_LEFTp C2
AUD1_LEFTn C3
AUD1_RIGHTp B2
AUD1_RIGHTn B3
Digital Audio
AUD0_SPDIF A4
AUD0_SPD
CMP0_CLK/PKT2_VALID/GPIO_16 R29
MII_TX_CLK/LED_LS3/CMP0_DATA/EBI_IRQ6/GPIO_31 C20
MII_TX_ER/LED_LS2/CMP0_SYNC/EBI_IRQ5/GPIO_30 B20
CMP0_REQ/PKT2_ERROR/GPIO_17 V25
HD_DVI1_HSYNC/LED_KD2/CMP1_CLK/GPIO_55 V24
HD_DVI1-11/LED_KD1/CMP1_DATA/GPIO_54 U24
HD_DVI1-10/LED_KD0/CMP1_SYNC/GPIO_53 T24
HD_DVI1_VSYNC/LED_KD3/CMP1_REQ/GPIO_56 W24
TP_MCLK
E19 LED_LS0/AUD_FS_CLK0/GPIO_28
F19 LED_LS1/AUD_FS_CLK1/GPIO_29
RN77 33
I2S_SCLK
I2S_DATA
I2S_LR
1 2 3 4 8 7 6 5
RN8P4R¥0402
2510833300000
E6 I2S_CLK0
D5 I2S_DATA0
D6 I2S_LR0
I2S_CLK1 D4
I2S_DATA1 D3
I2S_LR1 E5
BGA841¥AJ29¥1.27
100BCM7038B2
J8
S-M-
3 2
J10
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40
DT_MO
AUD_S
I2S_S
I2S_L
I2S_D
DTV_R
DTB_DETECT
CONSMD40P/.5
6024000000000
CONNECTOR EDGE 20X2
9 DTV_RST_N DTV_RST_N
16 DT_MON_V DT_MON_V


A3.3V
Modify
Audio I2S
and SPDIF
circuit
C411
NI 47pF
C0402
BOM_IGNORE
RB77
NI 470
R0402
BOM_IGNORE
RB78
NI 470
R0402
BOM_IGNORE
LB1
NI 0.18uH, 0805
L0805
BOM_IGNORE
AUDO_SPDIF
Close to U1
R343
NI 510R
R0402
BOM_IGNORE
QB4
NI BC857B
SOT23A
BOM_IGNORE
CB37
NI 22p
C0402
BOM_IGNORE
CB38
NI 22p
C0402
BOM_IGNORE
C400
NI 0.1uF
C0402
BOM_IGNORE
R32
33
R0603
210704203300
BOM: mount
0402 size
J8
S-M-.100-1X3
SIP¥3P¥2.0
621030001900
3
2
1
R35
A3.3V
1K 1%
R0402
210504201020
J4
MINI JUMPER
JUMPER
620020000800
2
1
MCLK Output Selection:
PH: ACTIVE
PL: DISABLE (Default)
DT_MON_V
AUD_SPDIF
I2S_SCLK
I2S_LR
I2S_DATA
DTV_RST_N
U1-14
BCM7038B0
Analog I/O
F29
F28
DS_IFp
DS_IFn
DS_AGCT_CTL
DS_AGCI_CTL
H25
G25
Place bias resistors next
to ball on BCM7038
F27
G27
VDEC_NTSC
VDEC_VCM
R66
3K 1%
RFDAC_BIAS
R0402
210504203020
C21
RFM_RBIAS
RFM_DACp
RFM_DACn
E21
E22
B21
RFM_RBIAS_VSS
BGA841¥AJ29¥1.27
100BCM7038B2
Do NOT connect
RFM_RBIAS_VSS to PCB
ground

A
B
C
D
E
F

Audio Buffer

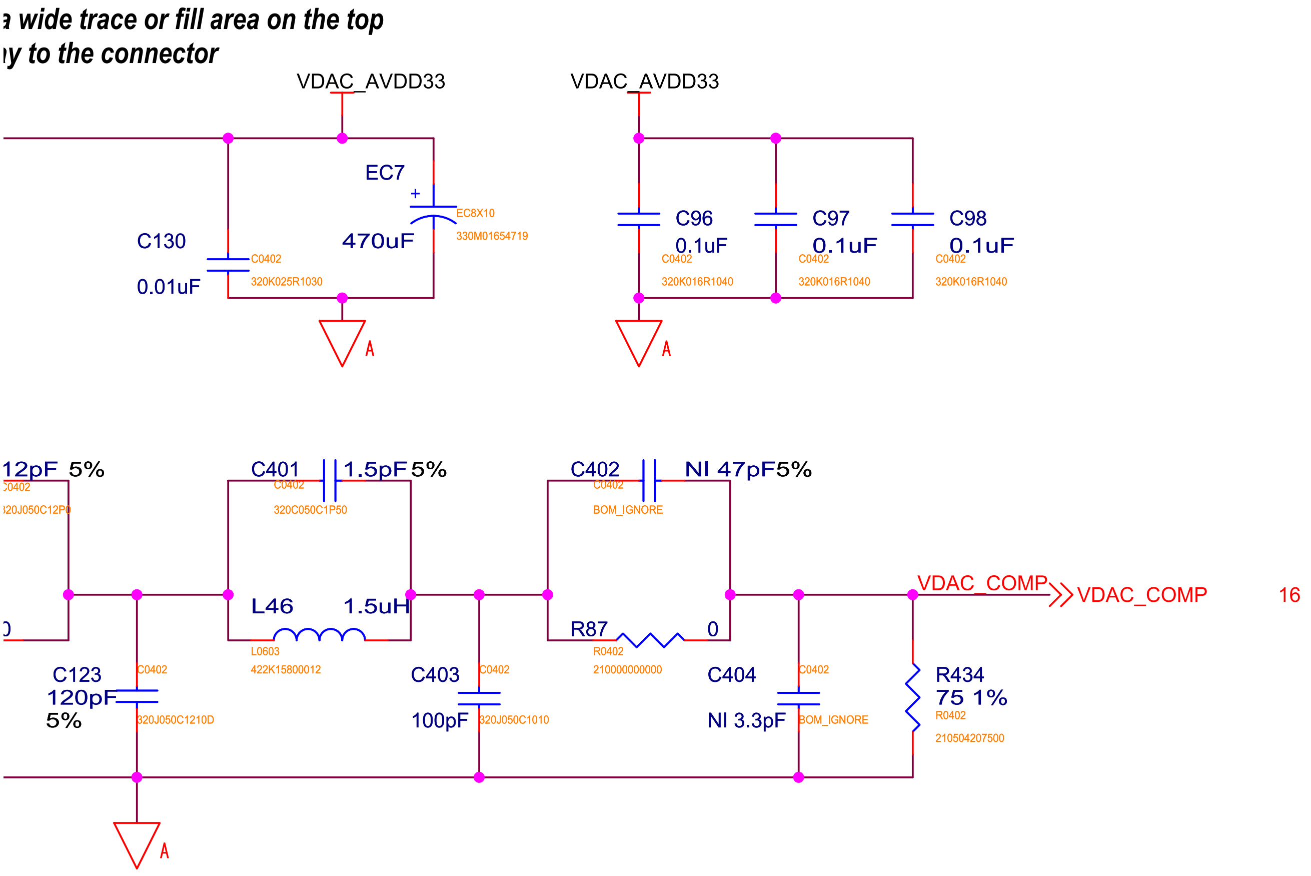
# 9.30 DTV TUNER BOARD (5/16) [VIDEO DAC OUTPUT BLOCK]



Route VDAC_AVDD33 as a wide layer of the PCB all the way to th

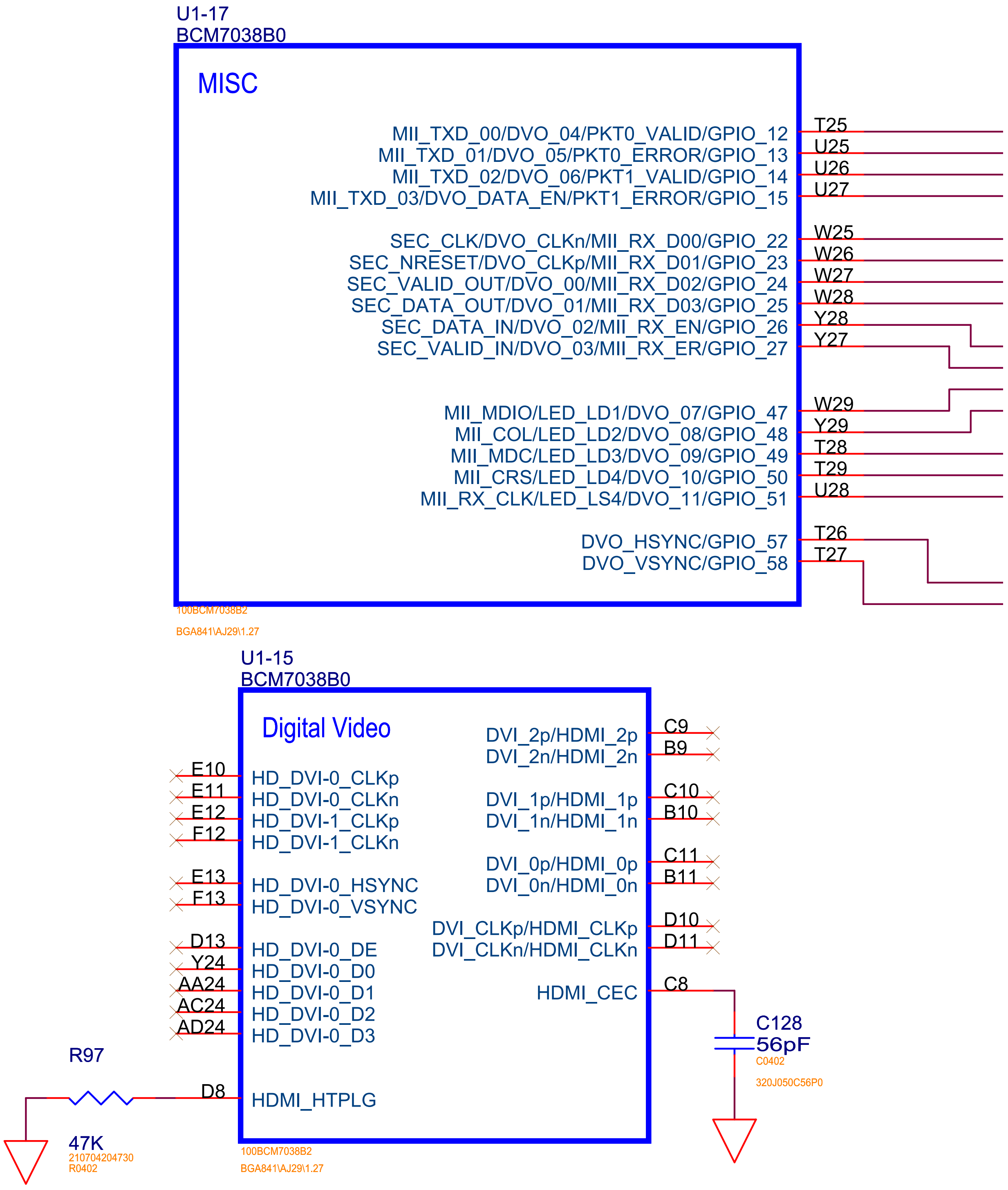
Place bias resisters near BCM7038 and try to shield them by GND.

U1-4
BCM7038B0
Video DAC Outputs
IR3_IN/HSYNC0/GPIO_45
LED_LD0/VSYNC0/GPIO_46
VDAC1_RGB_RBIAS
VDAC1_BLUE/Pb
VDAC1_GREEN/Y
VDAC1_RED/Pr
BSC_M3_SCL/HSYNC1/SGPIO_00
BSC_M3_SDA/VSYNC1/SGPIO_01
VDAC0_CLC_RBIAS
VDAC0_LUMA
VDAC0_CHROMA
VDAC0_COMPOSITE
D23
C24
C19
D18
E18
F25
E25
D16
E16
E17
C18
C17
R74
562 1%
1%
R0402
210504256200
R75
562 1%
R0402
210504256200
A
F24
G24
H24
K24
J24
R24
SD_Y
SD_Pr
SD_Pb
SD_Chroma
SD_Luma
SD_CMode
Video ADC Inputs
BGA841\AJ29\1.27
100BCM7038B2
R68
75 1%
R0402
210504207500
C119
12pF 5
C0402
320J050C12P
R90
0
R0402
210000000000
C122
33pF (DNI)
C0402
BOM_IGNORE
C1
12
5%

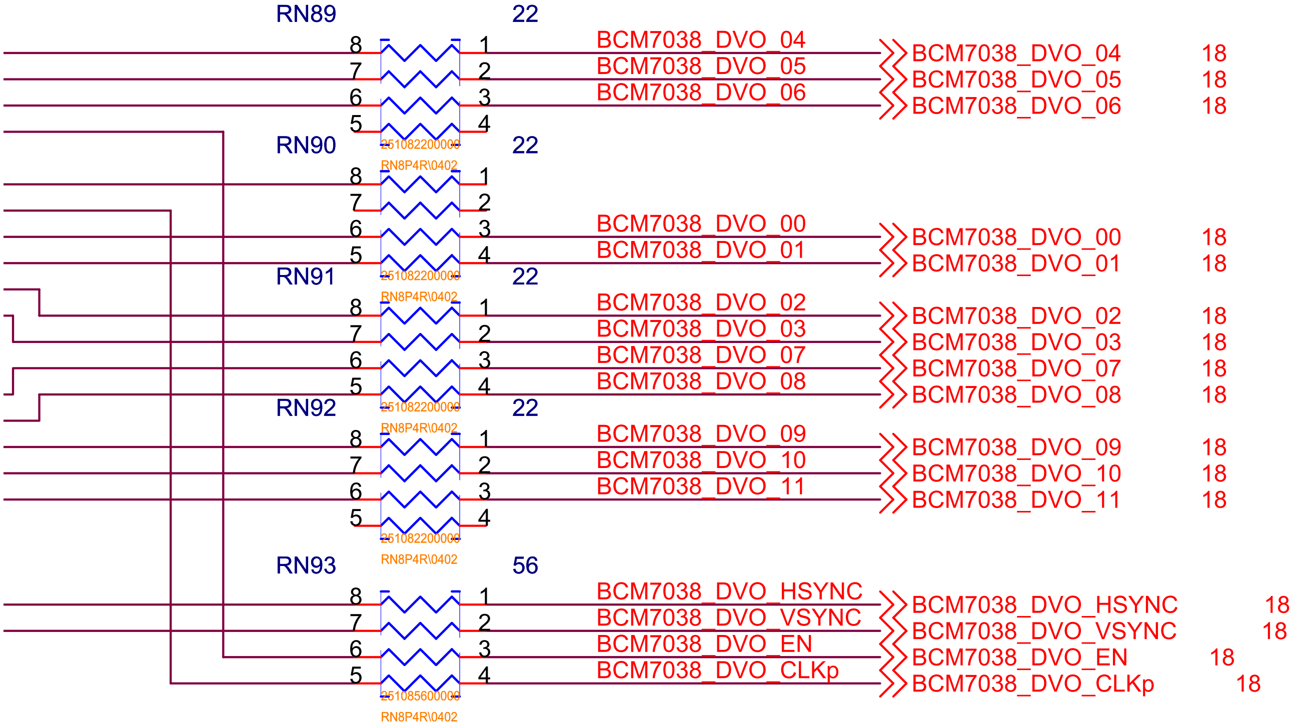

a wide trace or fill area on the top
y to the connector
VDAC_AVDD33
VDAC_AVDD33
EC7
+
470uF
EC8X10
330M01654719
C130
0.01uF
C0402
320K025R1030
C96
0.1uF
C0402
320K016R1040
C97
0.1uF
C0402
320K016R1040
C98
0.1uF
C0402
320K016R1040
A
A
12pF 5%
C0402
320J050C12P
0
C401
1.5pF 5%
C0402
320C050C1P50
L46
1.5uH
L0603
422K15800012
C402
NI 47pF5%
C0402
BOM_IGNORE
R87
0
R0402
210000000000
VDAC_COMP
VDAC_COMP
16
C123
120pF
5%
C0402
320J050C1210D
C403
100pF
C0402
320J050C1010
C404
NI 3.3pF
C0402
BOM_IGNORE
R434
75 1%
R0402
210504207500
A

# Video DAC output

# 9.31 DTV TUNER BOARD (6/16) [DVO BLOCK]

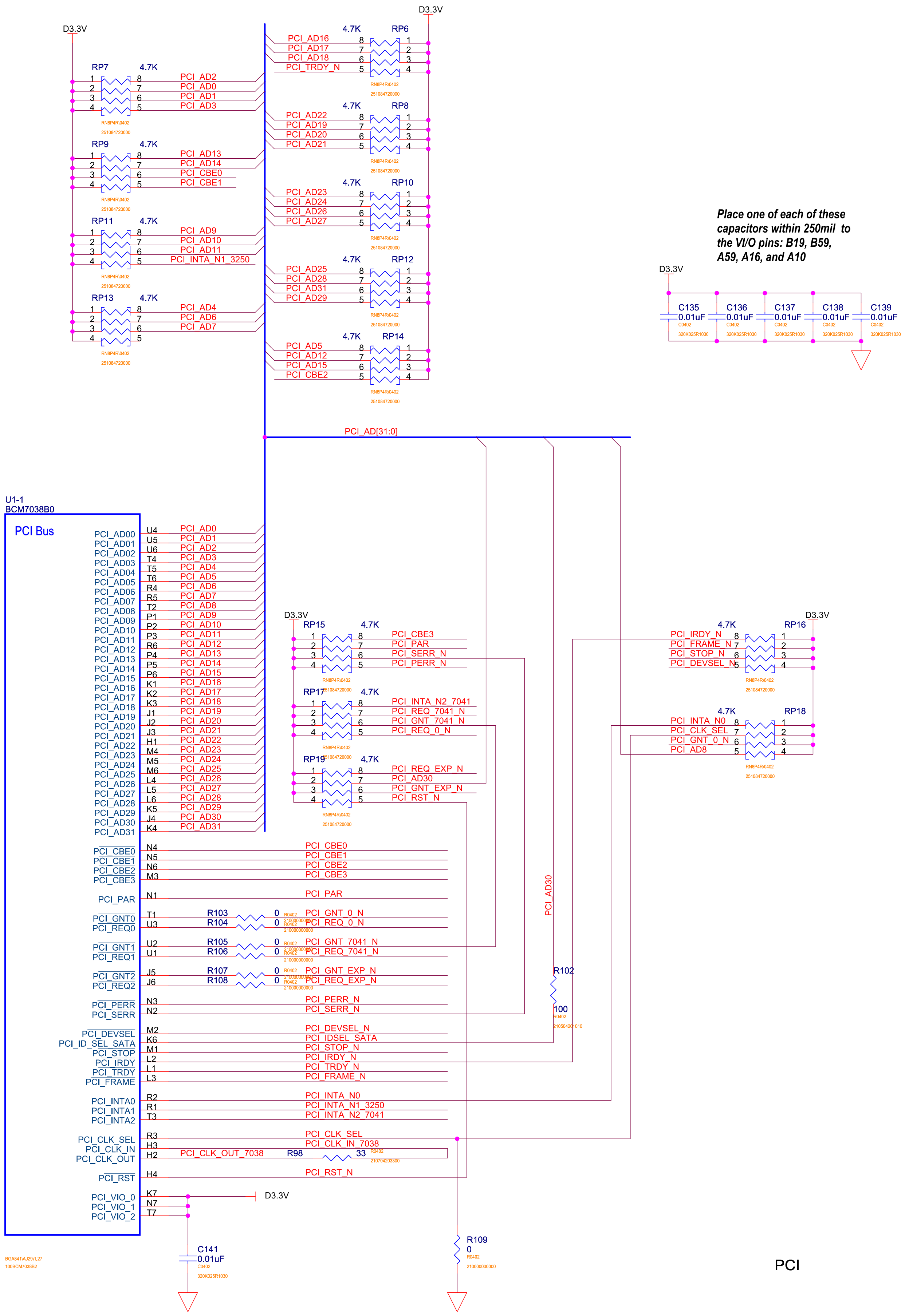

U1-17
BCM7038B0
MISC
MII_TXD_00/DVO_04/PKT0_VALID/GPIO_12
T25
MII_TXD_01/DVO_05/PKT0_ERROR/GPIO_13
U25
MII_TXD_02/DVO_06/PKT1_VALID/GPIO_14
U26
MII_TXD_03/DVO_DATA_EN/PKT1_ERROR/GPIO_15
U27
SEC_CLK/DVO_CLKn/MII_RX_D00/GPIO_22
W25
SEC_NRESET/DVO_CLKp/MII_RX_D01/GPIO_23
W26
SEC_VALID_OUT/DVO_00/MII_RX_D02/GPIO_24
W27
SEC_DATA_OUT/DVO_01/MII_RX_D03/GPIO_25
W28
SEC_DATA_IN/DVO_02/MII_RX_EN/GPIO_26
Y28
SEC_VALID_IN/DVO_03/MII_RX_ER/GPIO_27
Y27
MII_MDIO/LED_LD1/DVO_07/GPIO_47
W29
MII_COL/LED_LD2/DVO_08/GPIO_48
Y29
MII_MDC/LED_LD3/DVO_09/GPIO_49
T28
MII_CRS/LED_LD4/DVO_10/GPIO_50
T29
MII_RX_CLK/LED_LS4/DVO_11/GPIO_51
U28
DVO_HSYNC/GPIO_57
T26
DVO_VSYNC/GPIO_58
T27
100BCM7038B2
BGA841\AJ29\1.27
U1-15
BCM7038B0
Digital Video
E10
HD_DVI-0_CLKp
E11
HD_DVI-0_CLKn
E12
HD_DVI-1_CLKp
F12
HD_DVI-1_CLKn
E13
HD_DVI-0_HSYNC
F13
HD_DVI-0_VSYNC
D13
HD_DVI-0_DE
Y24
HD_DVI-0_D0
AA24
HD_DVI-0_D1
AC24
HD_DVI-0_D2
AD24
HD_DVI-0_D3
D8
HDMI_HTPLG
DVI_2p/HDMI_2p
C9
DVI_2n/HDMI_2n
B9
DVI_1p/HDMI_1p
C10
DVI_1n/HDMI_1n
B10
DVI_0p/HDMI_0p
C11
DVI_0n/HDMI_0n
B11
DVI_CLKp/HDMI_CLKp
D10
DVI_CLKn/HDMI_CLKn
D11
HDMI_CEC
C8
C128
56pF
C0402
320J050C56P0
R97
47K
210704204730
R0402
100BCM7038B2
BGA841\AJ29\1.27

**Place series resistors close to U1**


RN89
22
251082200000
RN8P4R\0402
BCM7038_DVO_04
BCM7038_DVO_05
BCM7038_DVO_06
BCM7038_DVO_04 18
BCM7038_DVO_05 18
BCM7038_DVO_06 18
RN90
22
251082200000
RN8P4R\0402
BCM7038_DVO_00
BCM7038_DVO_01
BCM7038_DVO_00 18
BCM7038_DVO_01 18
RN91
22
251082200000
RN8P4R\0402
BCM7038_DVO_02
BCM7038_DVO_03
BCM7038_DVO_07
BCM7038_DVO_08
BCM7038_DVO_02 18
BCM7038_DVO_03 18
BCM7038_DVO_07 18
BCM7038_DVO_08 18
RN92
22
251082200000
RN8P4R\0402
BCM7038_DVO_09
BCM7038_DVO_10
BCM7038_DVO_11
BCM7038_DVO_09 18
BCM7038_DVO_10 18
BCM7038_DVO_11 18
RN93
56
251085600000
RN8P4R\0402
BCM7038_DVO_HSYNC
BCM7038_DVO_VSYNC
BCM7038_DVO_EN
BCM7038_DVO_CLKp
BCM7038_DVO_HSYNC 18
BCM7038_DVO_VSYNC 18
BCM7038_DVO_EN 18
BCM7038_DVO_CLKp 18
8 7 6 5
1 2 3 4

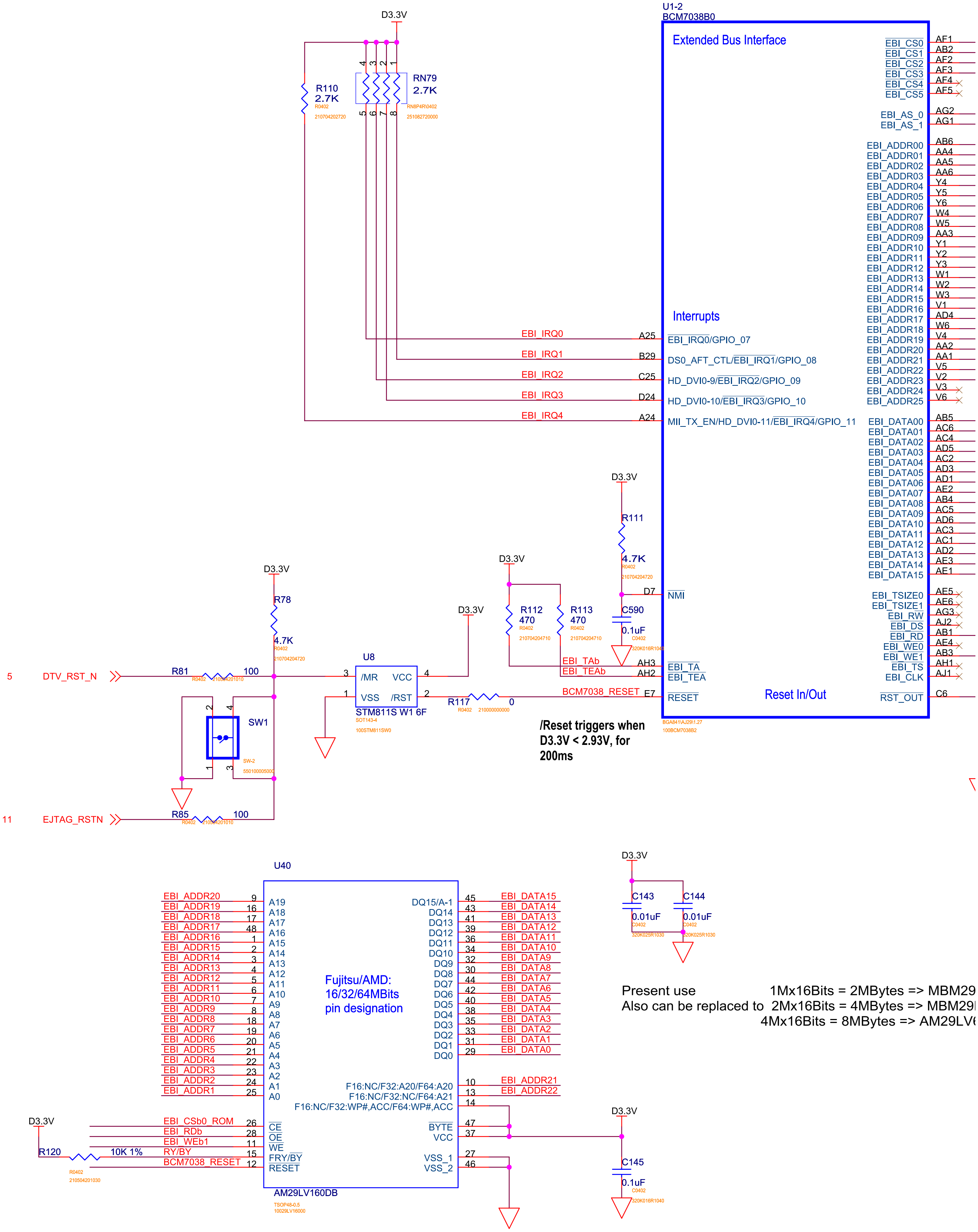
# DVO

# 9.32 DTV TUNER BOARD (7/16) [PCI BLOCK]


D3.3V
RP7 4.7K
PCI_AD2
PCI_AD0
PCI_AD1
PCI_AD3
RP9 4.7K
PCI_AD13
PCI_AD14
PCI_CBE0
PCI_CBE1
RP11 4.7K
PCI_AD9
PCI_AD10
PCI_AD11
PCI_INTA_N1_3250
RP13 4.7K
PCI_AD4
PCI_AD6
PCI_AD7
RN8P4R0402
RP6 4.7K
PCI_AD16
PCI_AD17
PCI_AD18
PCI_TRDY_N
RP8 4.7K
PCI_AD22
PCI_AD19
PCI_AD20
PCI_AD21
RP10 4.7K
PCI_AD23
PCI_AD24
PCI_AD26
PCI_AD27
RP12 4.7K
PCI_AD25
PCI_AD28
PCI_AD31
PCI_AD29
RP14 4.7K
PCI_AD5
PCI_AD12
PCI_AD15
PCI_CBE2
PCI_AD[31:0]
C135 0.01uF
C136 0.01uF
C137 0.01uF
C138 0.01uF
C139 0.01uF
C0402
U1-1
BCM7038B0
PCI Bus
PCI_AD00 … PCI_AD31
U4 U5 U6 T4 T5 T6 R4 R5 T2 P1 P2 P3 R6 P4 P5 P6 K1 K2 K3 J1 J2 J3 H1 M4 M5 M6 L4 L5 L6 K5 J4 K4
PCI_AD0 … PCI_AD31
PCI_CBE0
PCI_CBE1
PCI_CBE2
PCI_CBE3
PCI_PAR
PCI_GNT0
PCI_REQ0
PCI_GNT1
PCI_REQ1
PCI_GNT2
PCI_REQ2
PCI_PERR
PCI_SERR
PCI_DEVSEL
PCI_ID_SEL_SATA
PCI_STOP
PCI_IRDY
PCI_TRDY
PCI_FRAME
PCI_INTA0
PCI_INTA1
PCI_INTA2
PCI_CLK_SEL
PCI_CLK_IN
PCI_CLK_OUT
PCI_RST
PCI_VIO_0
PCI_VIO_1
PCI_VIO_2
N4 N5 N6 M3 N1 T1 U3 U2 U1 J5 J6 N3 N2 M2 K6 M1 L2 L1 L3 R2 R1 T3 R3 H3 H2 H4 K7 N7 T7
R103 0
R104 0
R105 0
R106 0
R107 0
R108 0
R0402
PCI_GNT_0_N
PCI_REQ_0_N
PCI_GNT_7041_N
PCI_REQ_7041_N
PCI_GNT_EXP_N
PCI_REQ_EXP_N
PCI_PERR_N
PCI_SERR_N
PCI_DEVSEL_N
PCI_IDSEL_SATA
PCI_STOP_N
PCI_IRDY_N
PCI_TRDY_N
PCI_FRAME_N
PCI_INTA_N0
PCI_INTA_N1_3250
PCI_INTA_N2_7041
PCI_CLK_SEL
PCI_CLK_IN_7038
PCI_CLK_OUT_7038
R98 33
PCI_RST_N
D3.3V
C141 0.01uF
R109 0
R102 100
PCI_AD30
RP15 4.7K
PCI_CBE3
PCI_PAR
PCI_SERR_N
PCI_PERR_N
RP17 4.7K
PCI_INTA_N2_7041
PCI_REQ_7041_N
PCI_GNT_7041_N
PCI_REQ_0_N
RP19 4.7K
PCI_REQ_EXP_N
PCI_AD30
PCI_GNT_EXP_N
PCI_RST_N
RP16 4.7K
PCI_IRDY_N
PCI_FRAME_N
PCI_STOP_N
PCI_DEVSEL_N
RP18 4.7K
PCI_INTA_N0
PCI_CLK_SEL
PCI_GNT_0_N
PCI_AD8
PCI

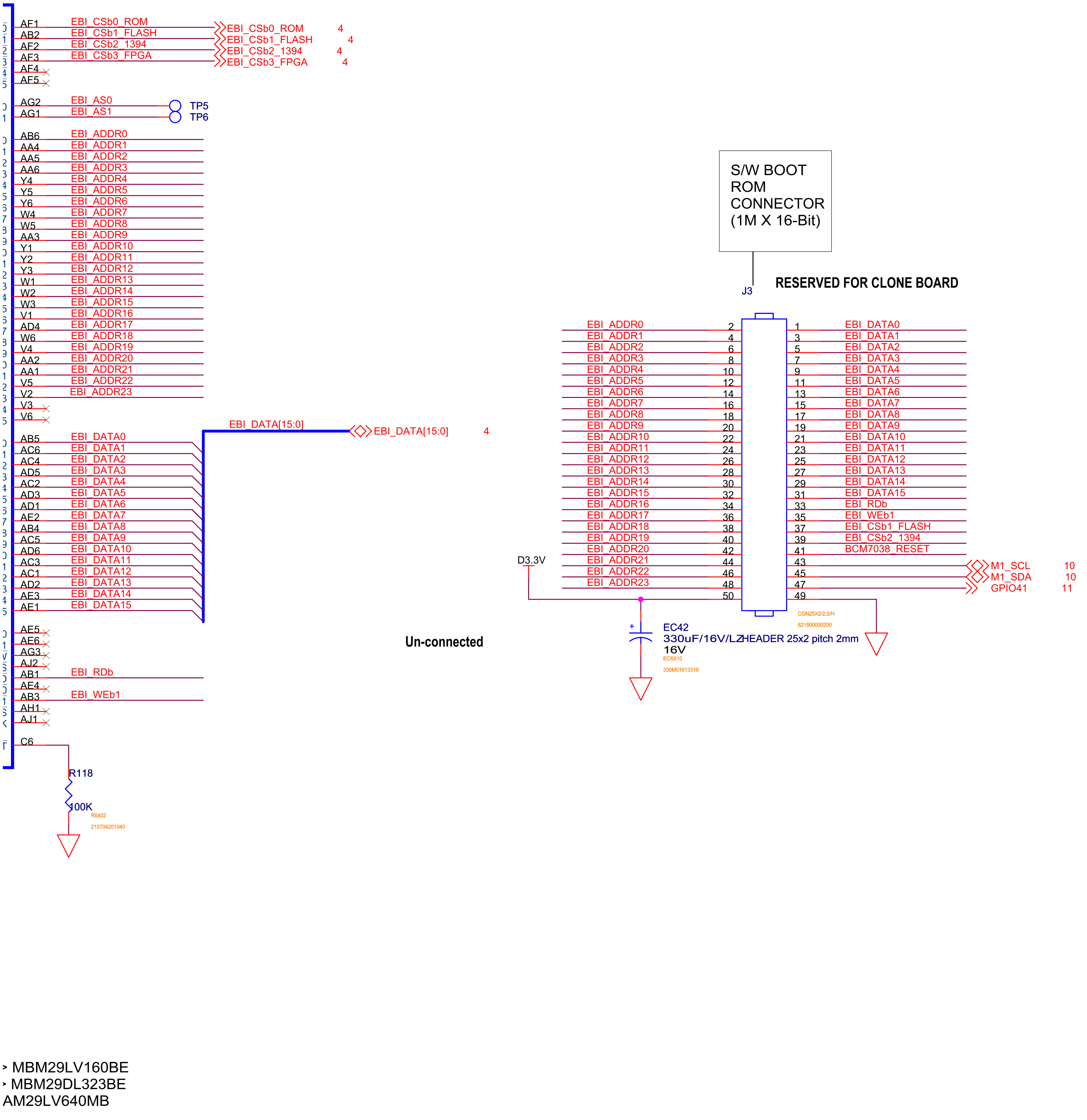
*Place one of each of these capacitors within 250mil to the VI/O pins: B19, B59, A59, A16, and A10*

# 9.33 DTV TUNER BOARD (8/16) [EBI, RESET BLOCK]


U1-2
BCM7038B0
Extended Bus Interface
EBI_CS0 AF1
EBI_CS1 AB2
EBI_CS2 AF2
EBI_CS3 AF3
EBI_CS4 AF4
EBI_CS5 AF5
EBI_AS_0 AG2
EBI_AS_1 AG1
EBI_ADDR00 … EBI_ADDR25
EBI_DATA00 … EBI_DATA15
EBI_TSIZE0 AE5
EBI_TSIZE1 AE6
EBI_RW AG3
EBI_DS AJ2
EBI_RD AB1
EBI_WE0 AE4
EBI_WE1 AB3
EBI_TS AH1
EBI_CLK AJ1
Interrupts
EBI_IRQ0/GPIO_07
DS0_AFT_CTL/EBI_IRQ1/GPIO_08
HD_DVI0-9/EBI_IRQ2/GPIO_09
HD_DVI0-10/EBI_IRQ3/GPIO_10
MII_TX_EN/HD_DVI0-11/EBI_IRQ4/GPIO_11
EBI_IRQ0 A25
EBI_IRQ1 B29
EBI_IRQ2 C25
EBI_IRQ3 D24
EBI_IRQ4 A24
NMI D7
EBI_TA AH3
EBI_TEA AH2
RESET E7
Reset In/Out
RST_OUT C6
D3.3V
R110 2.7K
RN79 2.7K
R111 4.7K
C590 0.1uF
R112 470
R113 470
EBI_TAb
EBI_TEAb
BCM7038_RESET
R117 0
R78 4.7K
U8
/MR VCC
VSS /RST
STM811S W1 6F
5 DTV_RST_N
R81 100
SW1
11 EJTAG_RSTN
R85 100
U40
Fujitsu/AMD:
16/32/64MBits
pin designation
AM29LV160DB
EBI_ADDR1 … EBI_ADDR20
A0 … A19
DQ0 … DQ14, DQ15/A-1
EBI_DATA0 … EBI_DATA15
F16:NC/F32:A20/F64:A20
F16:NC/F32:NC/F64:A21
F16:NC/F32:WP#,ACC/F64:WP#,ACC
EBI_ADDR21
EBI_ADDR22
EBI_CSb0_ROM CE
EBI_RDb OE
EBI_WEb1 WE
RY/BY FRY/BY
BCM7038_RESET RESET
BYTE
VCC
VSS_1
VSS_2
R120 10K 1%
C143 0.01uF
C144 0.01uF
C145 0.1uF

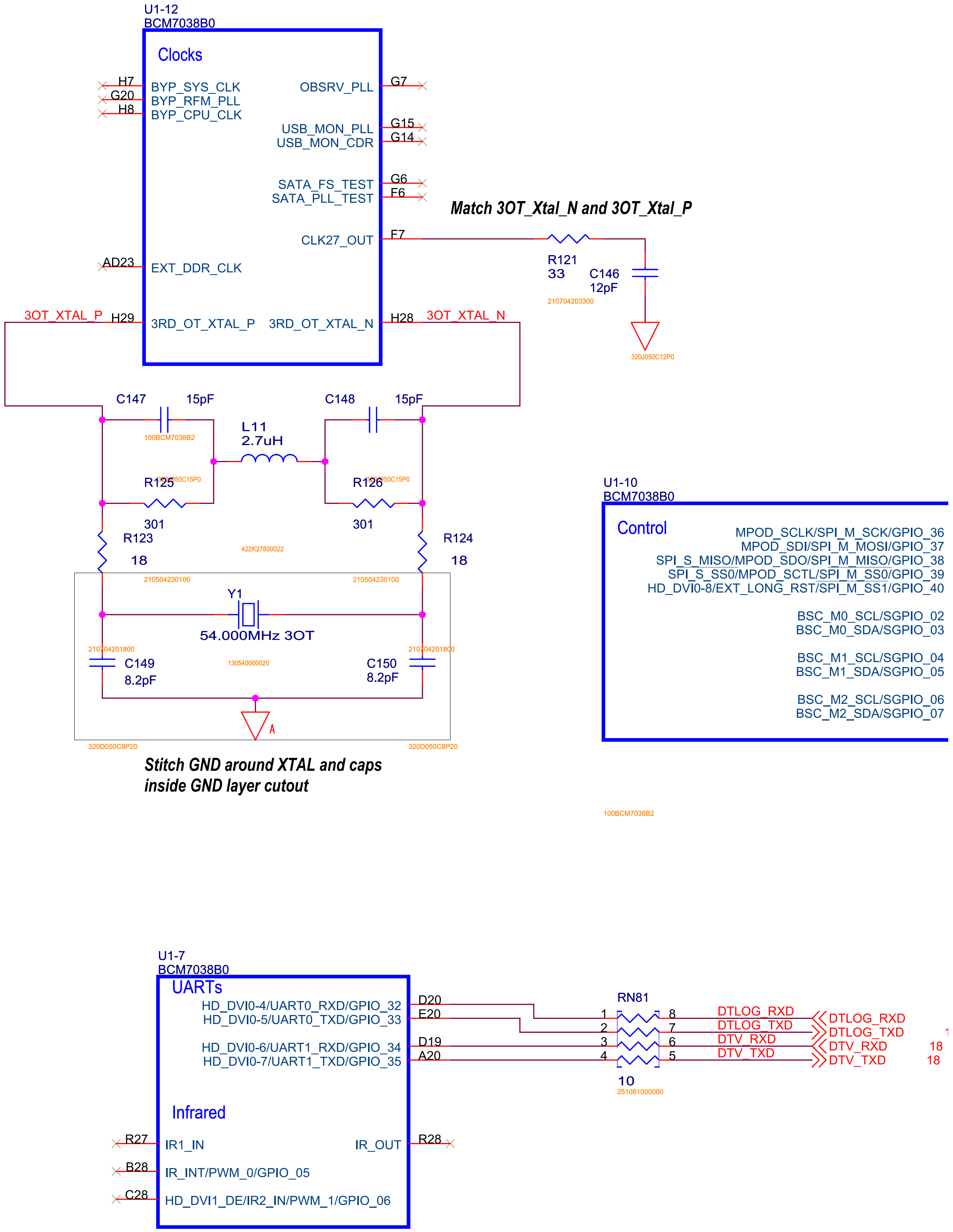
/Reset triggers when D3.3V < 2.93V, for 200ms

Present use 1Mx16Bits = 2MBytes => MBM29
Also can be replaced to 2Mx16Bits = 4MBytes => MBM29
4Mx16Bits = 8MBytes => AM29LV


AF1 EBI_CSb0_ROM
AB2 EBI_CSb1_FLASH
AF2 EBI_CSb2_1394
AF3 EBI_CSb3_FPGA
AF4
AF5
EBI_CSb0_ROM 4
EBI_CSb1_FLASH 4
EBI_CSb2_1394 4
EBI_CSb3_FPGA 4
AG2 EBI_AS0
AG1 EBI_AS1
TP5
TP6
AB6 EBI_ADDR0
AA4 EBI_ADDR1
AA5 EBI_ADDR2
AA6 EBI_ADDR3
Y4 EBI_ADDR4
Y5 EBI_ADDR5
Y6 EBI_ADDR6
W4 EBI_ADDR7
W5 EBI_ADDR8
AA3 EBI_ADDR9
Y1 EBI_ADDR10
Y2 EBI_ADDR11
Y3 EBI_ADDR12
W1 EBI_ADDR13
W2 EBI_ADDR14
W3 EBI_ADDR15
V1 EBI_ADDR16
AD4 EBI_ADDR17
W6 EBI_ADDR18
V4 EBI_ADDR19
AA2 EBI_ADDR20
AA1 EBI_ADDR21
V5 EBI_ADDR22
V2 EBI_ADDR23
V3
V6
EBI_DATA[15:0]
EBI_DATA[15:0] 4
AB5 EBI_DATA0
AC6 EBI_DATA1
AC4 EBI_DATA2
AD5 EBI_DATA3
AC2 EBI_DATA4
AD3 EBI_DATA5
AD1 EBI_DATA6
AE2 EBI_DATA7
AB4 EBI_DATA8
AC5 EBI_DATA9
AD6 EBI_DATA10
AC3 EBI_DATA11
AC1 EBI_DATA12
AD2 EBI_DATA13
AE3 EBI_DATA14
AE1 EBI_DATA15
AE5
AE6
AG3
AJ2
AB1 EBI_RDb
AE4
AB3 EBI_WEb1
AH1
AJ1
C6
R118
100K
R0402
210704201040
Un-connected
S/W BOOT ROM CONNECTOR (1M X 16-Bit)
J3
RESERVED FOR CLONE BOARD
EBI_ADDR0 2 1 EBI_DATA0
EBI_ADDR1 4 3 EBI_DATA1
EBI_ADDR2 6 5 EBI_DATA2
EBI_ADDR3 8 7 EBI_DATA3
EBI_ADDR4 10 9 EBI_DATA4
EBI_ADDR5 12 11 EBI_DATA5
EBI_ADDR6 14 13 EBI_DATA6
EBI_ADDR7 16 15 EBI_DATA7
EBI_ADDR8 18 17 EBI_DATA8
EBI_ADDR9 20 19 EBI_DATA9
EBI_ADDR10 22 21 EBI_DATA10
EBI_ADDR11 24 23 EBI_DATA11
EBI_ADDR12 26 25 EBI_DATA12
EBI_ADDR13 28 27 EBI_DATA13
EBI_ADDR14 30 29 EBI_DATA14
EBI_ADDR15 32 31 EBI_DATA15
EBI_ADDR16 34 33 EBI_RDb
EBI_ADDR17 36 35 EBI_WEb1
EBI_ADDR18 38 37 EBI_CSb1_FLASH
EBI_ADDR19 40 39 EBI_CSb2_1394
EBI_ADDR20 42 41 BCM7038_RESET
EBI_ADDR21 44 43 M1_SCL 10
EBI_ADDR22 46 45 M1_SDA 10
EBI_ADDR23 48 47 GPIO41 11
50 49
D3.3V
CON25X2/2.0/H
621500000200
HEADER 25x2 pitch 2mm
EC42
330uF/16V/LZ
16V
EC6X10
330M01613319
MBM29LV160BE
MBM29DL323BE
AM29LV640MB

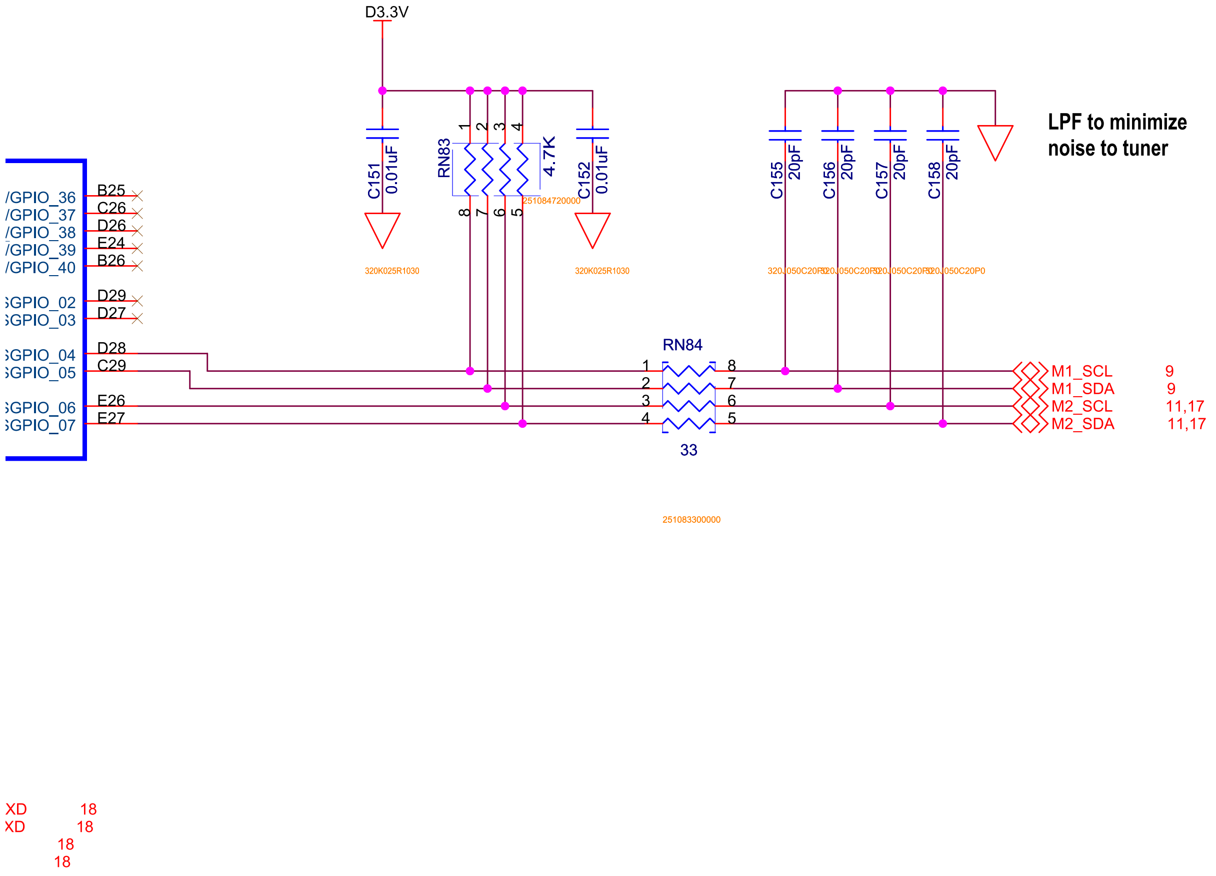
EBI,RESET

# 9.34 DTV TUNER BOARD (9/16) [I2C, UART, CLK BLOCK]


U1-12
BCM7038B0
Clocks
H7
G20
H8
BYP_SYS_CLK
BYP_RFM_PLL
BYP_CPU_CLK
OBSRV_PLL
G7
USB_MON_PLL
USB_MON_CDR
G15
G14
SATA_FS_TEST
SATA_PLL_TEST
G6
F6
CLK27_OUT
F7
AD23
EXT_DDR_CLK
3OT_XTAL_P
H29
3RD_OT_XTAL_P
3RD_OT_XTAL_N
H28
3OT_XTAL_N
R121
33
C146
12pF
210704203300
320J050C12P0
C147
15pF
100BCM7038B2
C148
15pF
L11
2.7uH
R125
R126
301
301
R123
18
R124
18
422K27800022
210504230100
210504230100
Y1
54.000MHz 3OT
130540000020
210704201800
210704201800
C149
8.2pF
C150
8.2pF
A
320D050C8P20
320D050C8P20
U1-10
BCM7038B0
Control
MPOD_SCLK/SPI_M_SCK/GPIO_36
MPOD_SDI/SPI_M_MOSI/GPIO_37
SPI_S_MISO/MPOD_SDO/SPI_M_MISO/GPIO_38
SPI_S_SS0/MPOD_SCTL/SPI_M_SS0/GPIO_39
HD_DVI0-8/EXT_LONG_RST/SPI_M_SS1/GPIO_40
BSC_M0_SCL/SGPIO_02
BSC_M0_SDA/SGPIO_03
BSC_M1_SCL/SGPIO_04
BSC_M1_SDA/SGPIO_05
BSC_M2_SCL/SGPIO_06
BSC_M2_SDA/SGPIO_07
100BCM7038B2
U1-7
BCM7038B0
UARTs
HD_DVI0-4/UART0_RXD/GPIO_32
HD_DVI0-5/UART0_TXD/GPIO_33
HD_DVI0-6/UART1_RXD/GPIO_34
HD_DVI0-7/UART1_TXD/GPIO_35
D20
E20
D19
A20
RN81
1
2
3
4
8
7
6
5
10
251081000000
DTLOG_RXD
DTLOG_TXD
DTV_RXD
DTV_TXD
DTLOG_RXD
DTLOG_TXD
DTV_RXD
DTV_TXD
18
18
Infrared
R27
IR1_IN
IR_OUT
R28
B28
IR_INT/PWM_0/GPIO_05
C28
HD_DVI1_DE/IR2_IN/PWM_1/GPIO_06

*Match 3OT_Xtal_N and 3OT_Xtal_P*

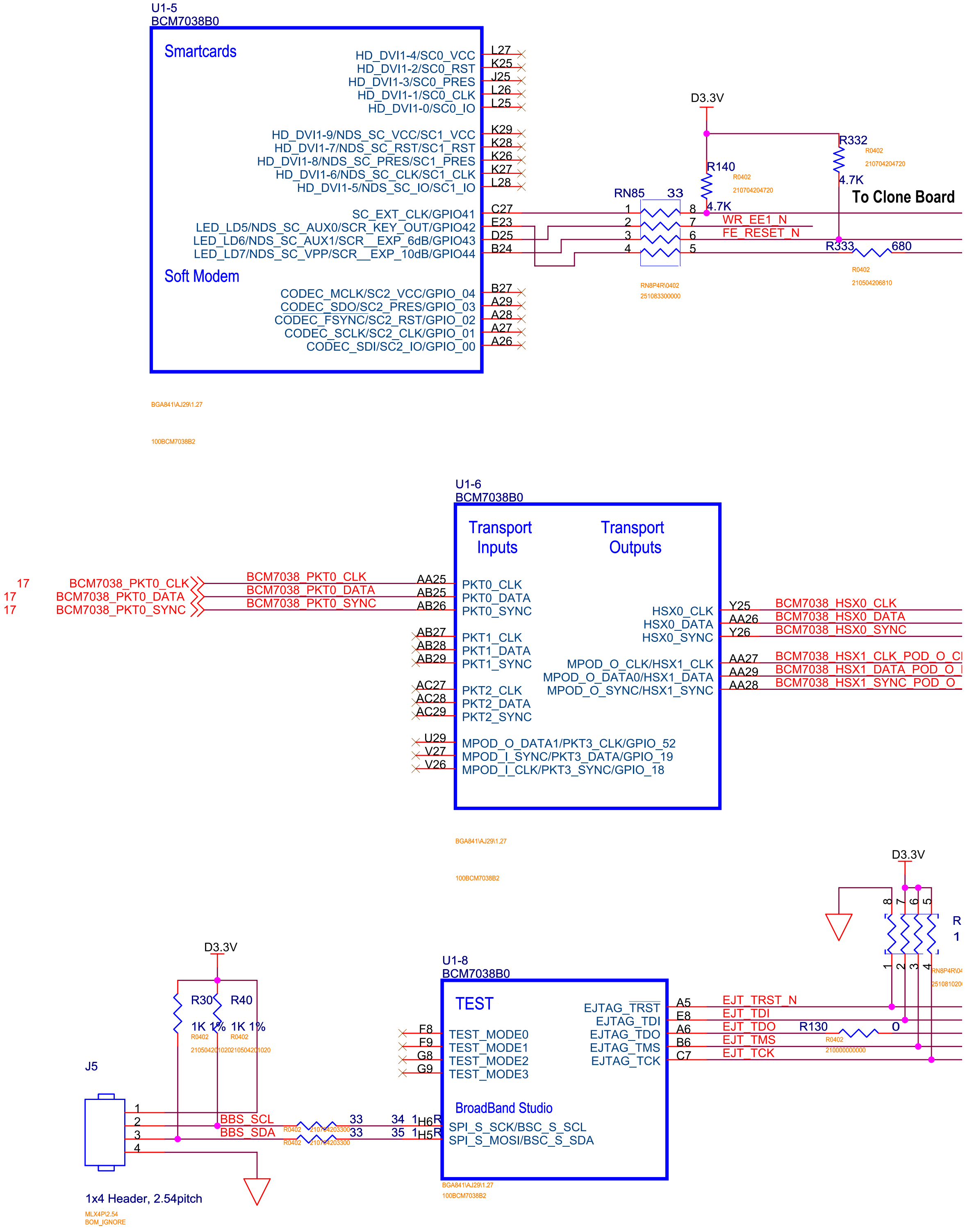
*Stitch GND around XTAL and caps inside GND layer cutout*


D3.3V
C151
0.01uF
320K025R1030
RN83
1
2
3
4
8
7
6
5
4.7K
251084720000
C152
0.01uF
320K025R1030
C155
20pF
320J050C20P0
C156
20pF
320J050C20P0
C157
20pF
320J050C20P0
C158
20pF
320J050C20P0
LPF to minimize
noise to tuner
/GPIO_36
/GPIO_37
/GPIO_38
/GPIO_39
/GPIO_40
B25
C26
D26
E24
B26
GPIO_02
GPIO_03
D29
D27
GPIO_04
GPIO_05
D28
C29
GPIO_06
GPIO_07
E26
E27
RN84
1
2
3
4
8
7
6
5
33
251083300000
M1_SCL 9
M1_SDA 9
M2_SCL 11,17
M2_SDA 11,17
XD 18
XD 18
18
18

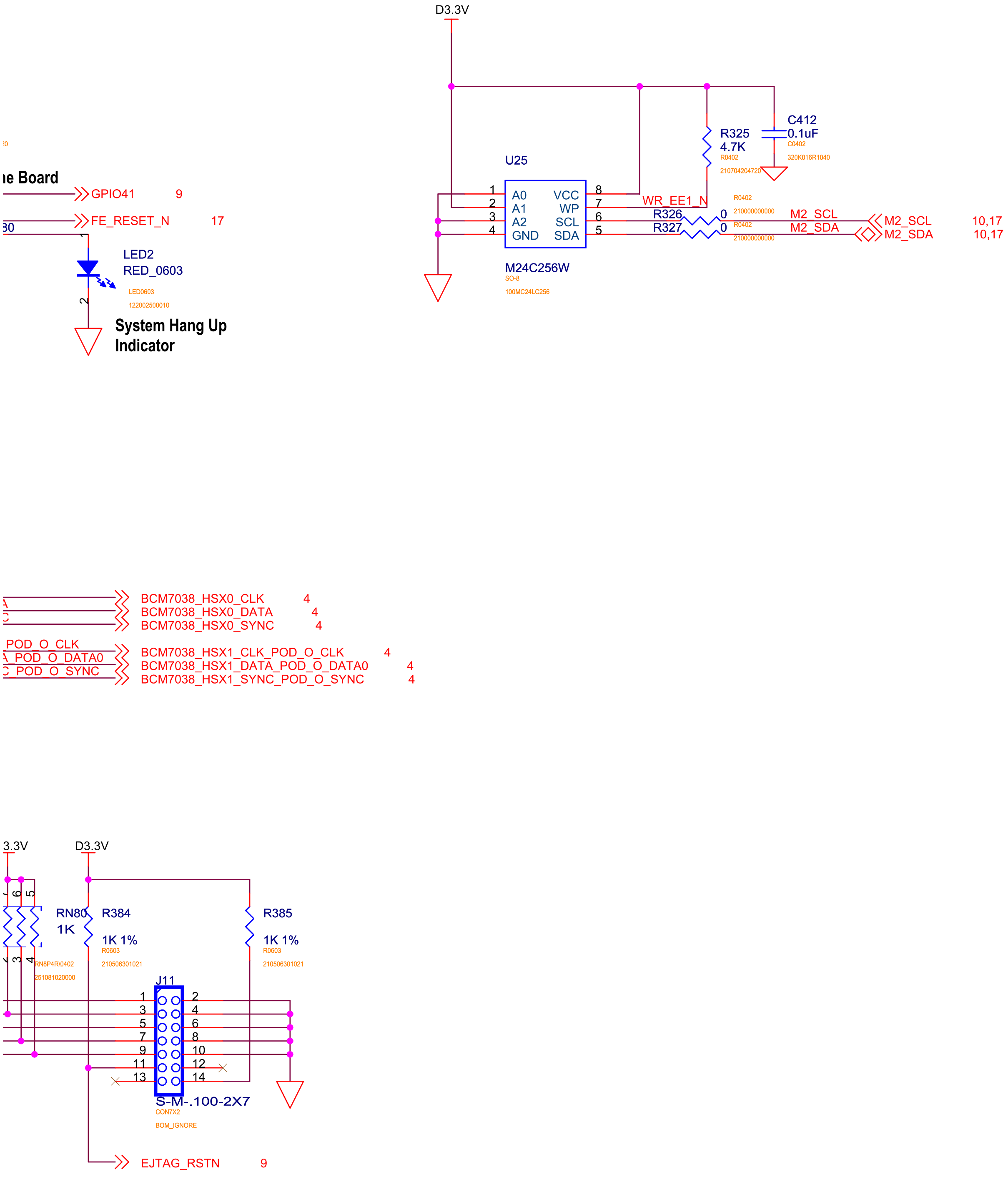
A
B
C
D
E
F

I2C, UART, CLK

# 9.35 DTV TUNER BOARD (10/16) [EJTAG, TS, EEPROM BLOCK]

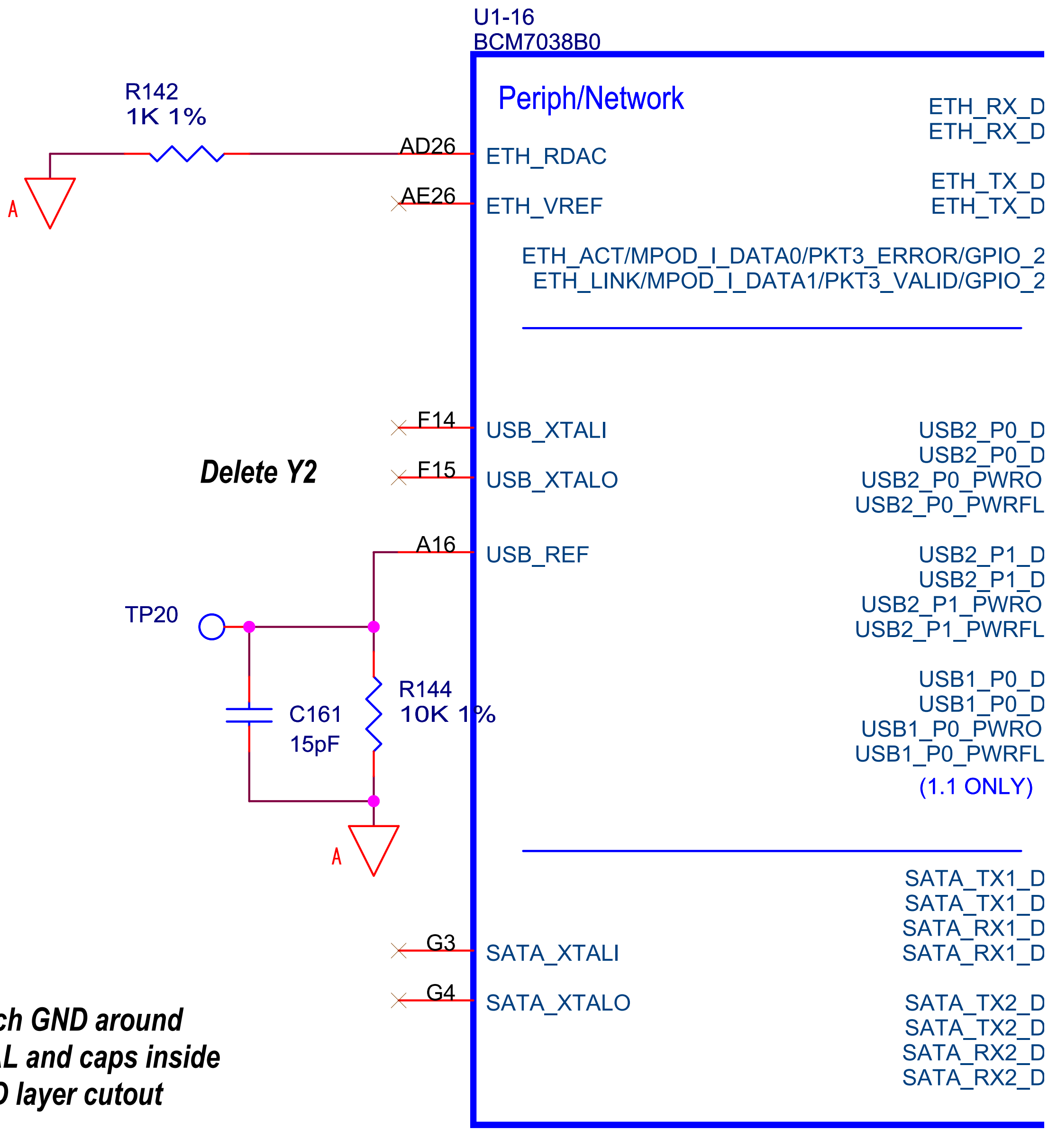


U1-5
BCM7038B0
Smartcards
HD_DVI1-4/SC0_VCC
HD_DVI1-2/SC0_RST
HD_DVI1-3/SC0_PRES
HD_DVI1-1/SC0_CLK
HD_DVI1-0/SC0_IO
L27
K25
J25
L26
L25
HD_DVI1-9/NDS_SC_VCC/SC1_VCC
HD_DVI1-7/NDS_SC_RST/SC1_RST
HD_DVI1-8/NDS_SC_PRES/SC1_PRES
HD_DVI1-6/NDS_SC_CLK/SC1_CLK
HD_DVI1-5/NDS_SC_IO/SC1_IO
K29
K28
K26
K27
L28
SC_EXT_CLK/GPIO41
LED_LD5/NDS_SC_AUX0/SCR_KEY_OUT/GPIO42
LED_LD6/NDS_SC_AUX1/SCR__EXP_6dB/GPIO43
LED_LD7/NDS_SC_VPP/SCR__EXP_10dB/GPIO44
C27
E23
D25
B24
Soft Modem
CODEC_MCLK/SC2_VCC/GPIO_04
CODEC_SDO/SC2_PRES/GPIO_03
CODEC_FSYNC/SC2_RST/GPIO_02
CODEC_SCLK/SC2_CLK/GPIO_01
CODEC_SDI/SC2_IO/GPIO_00
B27
A29
A28
A27
A26
BGA841\AJ29\1.27
100BCM7038B2
D3.3V
R332
R0402
210704204720
4.7K
R140
R0402
210704204720
4.7K
RN85
33
1
2
3
4
8
7
6
5
RN8P4R\0402
251083300000
WR_EE1_N
FE_RESET_N
R333
680
R0402
210504206810
To Clone Board
U1-6
BCM7038B0
Transport Inputs
Transport Outputs
17
17
17
BCM7038_PKT0_CLK
BCM7038_PKT0_DATA
BCM7038_PKT0_SYNC
BCM7038_PKT0_CLK
BCM7038_PKT0_DATA
BCM7038_PKT0_SYNC
AA25
AB25
AB26
PKT0_CLK
PKT0_DATA
PKT0_SYNC
AB27
AB28
AB29
PKT1_CLK
PKT1_DATA
PKT1_SYNC
AC27
AC28
AC29
PKT2_CLK
PKT2_DATA
PKT2_SYNC
U29
V27
V26
MPOD_O_DATA1/PKT3_CLK/GPIO_52
MPOD_I_SYNC/PKT3_DATA/GPIO_19
MPOD_I_CLK/PKT3_SYNC/GPIO_18
HSX0_CLK
HSX0_DATA
HSX0_SYNC
MPOD_O_CLK/HSX1_CLK
MPOD_O_DATA0/HSX1_DATA
MPOD_O_SYNC/HSX1_SYNC
Y25
AA26
Y26
AA27
AA29
AA28
BCM7038_HSX0_CLK
BCM7038_HSX0_DATA
BCM7038_HSX0_SYNC
BCM7038_HSX1_CLK_POD_O_Cl
BCM7038_HSX1_DATA_POD_O_
BCM7038_HSX1_SYNC_POD_O_
BGA841\AJ29\1.27
100BCM7038B2
D3.3V
8
7
6
5
1
2
3
4
R
1
RN8P4R\04
25108102
D3.3V
R30
R40
1K 1%
1K 1%
R0402
R0402
210504201020210504201020
J5
1
2
3
4
BBS_SCL
BBS_SDA
R0402
210704203300
R0402
210704203300
33
33
34
35
1
1
H6
H5
R
R
1x4 Header, 2.54pitch
MLX4P\2.54
BOM_IGNORE
U1-8
BCM7038B0
TEST
F8
F9
G8
G9
TEST_MODE0
TEST_MODE1
TEST_MODE2
TEST_MODE3
BroadBand Studio
SPI_S_SCK/BSC_S_SCL
SPI_S_MOSI/BSC_S_SDA
EJTAG_TRST
EJTAG_TDI
EJTAG_TDO
EJTAG_TMS
EJTAG_TCK
A5
E8
A6
B6
C7
EJT_TRST_N
EJT_TDI
EJT_TDO
EJT_TMS
EJT_TCK
R130
0
R0402
210000000000
BGA841\AJ29\1.27
100BCM7038B2


D3.3V
U25
A0
A1
A2
GND
VCC
WP
SCL
SDA
1
2
3
4
8
7
6
5
M24C256W
SO-8
100MC24LC256
R325
4.7K
R0402
210704204720
C412
0.1uF
C0402
320K016R1040
WR_EE1_N
R326
0
R0402
210000000000
R327
0
R0402
210000000000
M2_SCL
M2_SDA
M2_SCL 10,17
M2_SDA 10,17
20
ne Board
GPIO41 9
FE_RESET_N 17
30
1
LED2
RED_0603
LED0603
122002500010
2
System Hang Up
Indicator
BCM7038_HSX0_CLK 4
BCM7038_HSX0_DATA 4
BCM7038_HSX0_SYNC 4
_POD_O_CLK
A_POD_O_DATA0
C_POD_O_SYNC
BCM7038_HSX1_CLK_POD_O_CLK 4
BCM7038_HSX1_DATA_POD_O_DATA0 4
BCM7038_HSX1_SYNC_POD_O_SYNC 4
3.3V
D3.3V
6
5
RN80
1K
3
4
RN8P4R\0402
251081020000
R384
1K 1%
R0603
210506301021
R385
1K 1%
R0603
210506301021
J11
1
2
3
4
5
6
7
8
9
10
11
12
13
14
S-M-.100-2X7
CON7X2
BOM_IGNORE
EJTAG_RSTN 9

EJTAG, TS, EEPROM

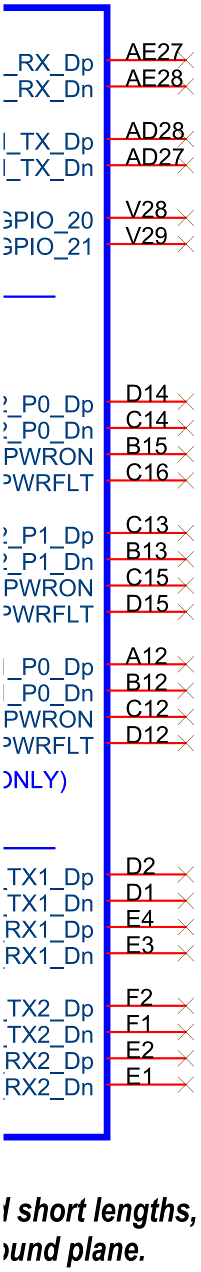
# 9.36 DTV TUNER BOARD (11/16) [USB;ETHERNET;SATA BLOCK]


U1-16
BCM7038B0
Periph/Network
R142
1K 1%
A
AD26
ETH_RDAC
AE26
ETH_VREF
ETH_RX_D
ETH_RX_D
ETH_TX_D
ETH_TX_D
ETH_ACT/MPOD_I_DATA0/PKT3_ERROR/GPIO_2
ETH_LINK/MPOD_I_DATA1/PKT3_VALID/GPIO_2
F14
USB_XTALI
F15
USB_XTALO
A16
USB_REF
USB2_P0_D
USB2_P0_D
USB2_P0_PWRO
USB2_P0_PWRFL
USB2_P1_D
USB2_P1_D
USB2_P1_PWRO
USB2_P1_PWRFL
USB1_P0_D
USB1_P0_D
USB1_P0_PWRO
USB1_P0_PWRFL
(1.1 ONLY)
TP20
C161
15pF
R144
10K 1%
A
G3
SATA_XTALI
G4
SATA_XTALO
SATA_TX1_D
SATA_TX1_D
SATA_RX1_D
SATA_RX1_D
SATA_TX2_D
SATA_TX2_D
SATA_RX2_D
SATA_RX2_D

***Delete Y2***

***Stitch GND around XTAL and caps inside GND layer cutout***

***Route TXP/M and RXP/M pairs differentially, matched shor with 100 ohm differential impedance, adjacent to ground p***

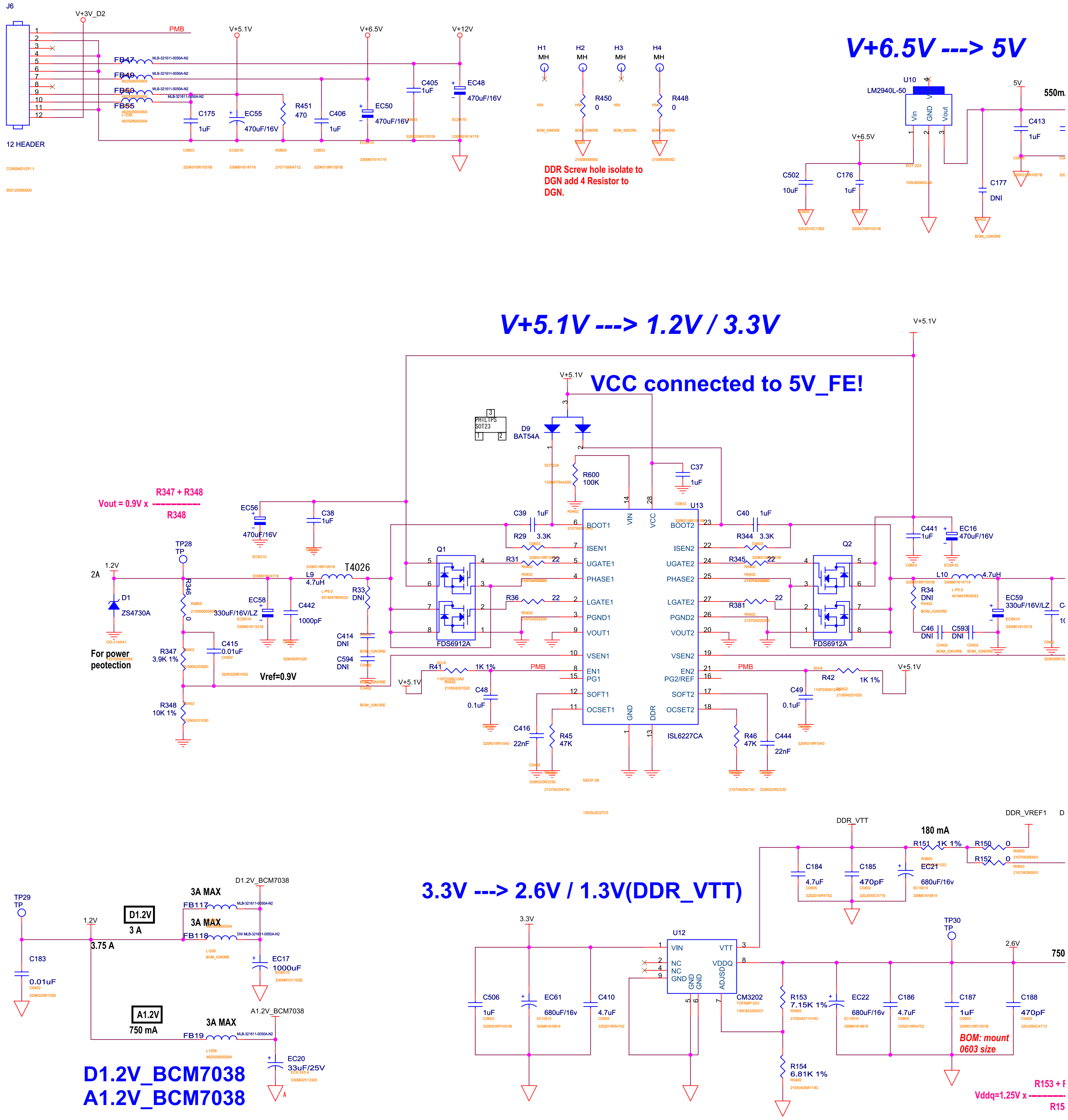

_RX_Dp
AE27
_RX_Dn
AE28
_TX_Dp
AD28
_TX_Dn
AD27
GPIO_20
V28
GPIO_21
V29
_P0_Dp
D14
_P0_Dn
C14
PWRON
B15
PWRFLT
C16
_P1_Dp
C13
_P1_Dn
B13
PWRON
C15
PWRFLT
D15
_P0_Dp
A12
_P0_Dn
B12
PWRON
C12
PWRFLT
D12
ONLY)
TX1_Dp
D2
TX1_Dn
D1
RX1_Dp
E4
RX1_Dn
E3
TX2_Dp
F2
TX2_Dn
F1
RX2_Dp
E2
RX2_Dn
E1
l short lengths,
ound plane.

SATA & USB - Layout Guidelines & Notes

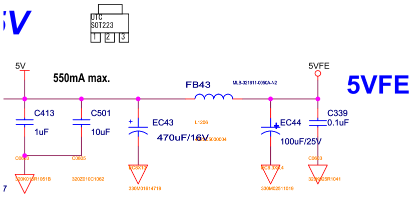
1. The Dp and Dn traces are length matched, with max differential skew, within 20mils
2. Differential trace length must be less than 5 inches
3. No more than 2 vias per trace, prefer zero.
4. Never split the ground plane under differential pair routing
5. Route differential pairs above the GND plane.
6. Differential impedance is 100 Ohms for SATA and 90 ohms for USB.
7. Adjacent differential pairs should be separated by at least 3 times the trace width.
(e.g. 7.5 mil trace, leave >22.5mils between adjacent diff pairs)
8. Stich gnd vias around each differential pair, but NOT between a given pair.
9. SATA xtal +/- 50 ppm Tolerance +/- 100 ppm Stability

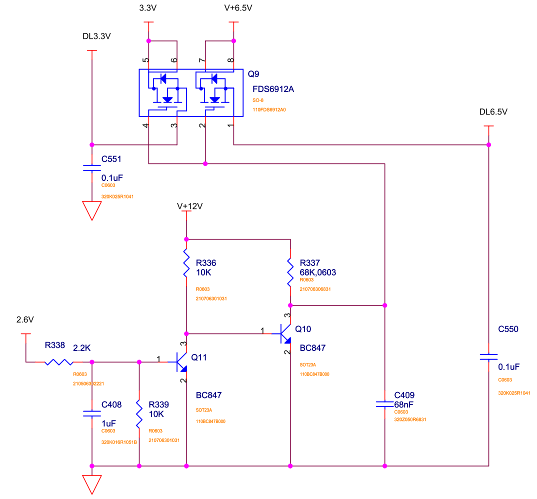
## USB;Ethernet;Sata

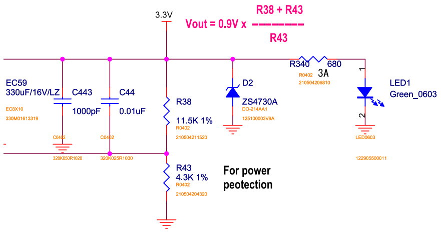
# 9.37 DTV TUNER BOARD (12/16) [POWER BLOCK]

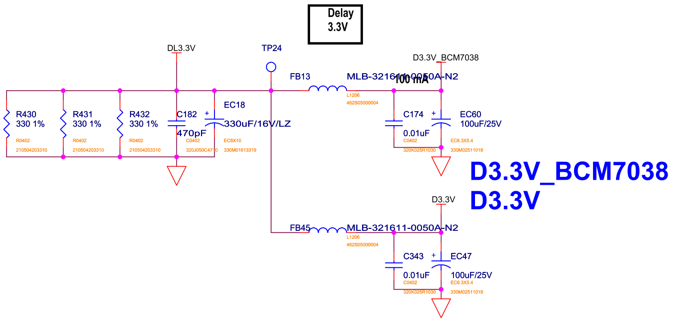


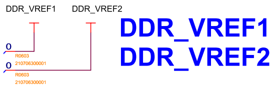
J6
12 HEADER
V+3V_D2
PMB
V+5.1V
V+6.5V
V+12V
FB47
FB48
FB53
FB55
C175 1uF
EC55 470uF/16V
R451 470
C406 1uF
EC50 470uF/16V
C405 1uF
EC48 470uF/16V
H1 MH
H2 MH
H3 MH
H4 MH
R450 0
R448 0
DDR Screw hole isolate to DGN add 4 Resistor to DGN.
V+6.5V ---> 5V
U10 LM2940L-50
Vin GND Vout
5V
550mA
C413 1uF
C502 10uF
C176 1uF
C177 DNI
V+5.1V ---> 1.2V / 3.3V
VCC connected to 5V_FE!
D9 BAT54A
PHILIPS SOT23
R600 100K
C37 1uF
U13 ISL6227CA
C39 1uF
R29 3.3K
C40 1uF
R344 3.3K
BOOT1 ISEN1 UGATE1 PHASE1 LGATE1 PGND1 VOUT1 VSEN1 EN1 PG1 SOFT1 OCSET1
VIN VCC GND DDR
BOOT2 ISEN2 UGATE2 PHASE2 LGATE2 PGND2 VOUT2 VSEN2 EN2 PG2/REF SOFT2 OCSET2
Q1 FDS6912A
Q2 FDS6912A
R31 22
R345 22
R36 22
R381 22
C441 1uF
EC16 470uF/16V
L10 4.7uH
R34 DNI
EC59 330uF/16V/LZ
C46 DNI
C593 DNI
Vout = 0.9V x (R347 + R348) / R348
EC56 470uF/16V
C38 1uF
TP28 TP
1.2V 2A
T4026
L9 4.7uH
R33 DNI
R346 0
EC58 330uF/16V/LZ
C442 1000pF
C414 DNI
C594 DNI
D1 ZS4730A
For power peotection
R347 3.9K 1%
C415 0.01uF
Vref=0.9V
R348 10K 1%
R41 1K 1%
PMB
V+5.1V
C48 0.1uF
C416 22nF
R45 47K
R42 1K 1%
C49 0.1uF
R46 47K
C444 22nF
DDR_VTT
DDR_VREF1
180 mA
R151 1K 1%
R150 0
R152 0
C184 4.7uF
C185 470pF
EC21 680uF/16v
3.3V ---> 2.6V / 1.3V(DDR_VTT)
3.3V
U12 CM3202
VIN VTT NC NC GND VDDQ GND GND ADJSD
C506 1uF
EC61 680uF/16v
C410 4.7uF
R153 7.15K 1%
R154 6.81K 1%
EC22 680uF/16v
C186 4.7uF
TP30 TP
2.6V
750
C187 1uF
C188 470pF
BOM: mount 0603 size
Vddq=1.25V x (R153 + R154) / R154
TP29 TP
1.2V
3.75 A
C183 0.01uF
D1.2V
3 A
D1.2V_BCM7038
3A MAX
FB117
3A MAX
FB118
EC17 1000uF
A1.2V
750 mA
A1.2V_BCM7038
3A MAX
FB19
EC20 33uF/25V
D1.2V_BCM7038
A1.2V_BCM7038

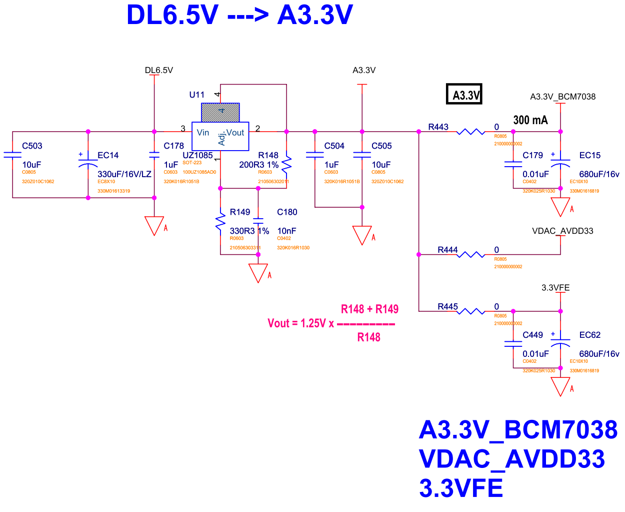

V
UTC
SOT223
5V
550mA max.
FB43
MLB-321611-0050A-N2
5VFE
5VFE
C413
1uF
C501
10uF
EC43
470uF/16V
EC44
100uF/25V
C339
0.1uF

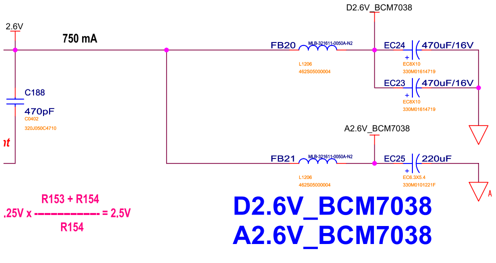

3.3V
V+6.5V
DL3.3V
Q9
FDS6912A
DL6.5V
C551
0.1uF
V+12V
R336
10K
R337
68K,0603
2.6V
R338
2.2K
Q11
Q10
BC847
BC847
C408
1uF
R339
10K
C409
68nF
C550
0.1uF


3.3V
Vout = 0.9V x (R38 + R43)/R43
EC59
330uF/16V/LZ
C443
1000pF
C44
0.01uF
R38
11.5K 1%
D2
ZS4730A
R340
680
3A
LED1
Green_0603
R43
4.3K 1%
For power
peotection


Delay
3.3V
DL3.3V
TP24
D3.3V_BCM7038
FB13
MLB-321611-0050A-N2
100 mA
R430
330 1%
R431
330 1%
R432
330 1%
C182
470pF
EC18
330uF/16V/LZ
C174
0.01uF
EC60
100uF/25V
D3.3V_BCM7038
D3.3V
D3.3V
FB45
MLB-321611-0050A-N2
C343
0.01uF
EC47
100uF/25V

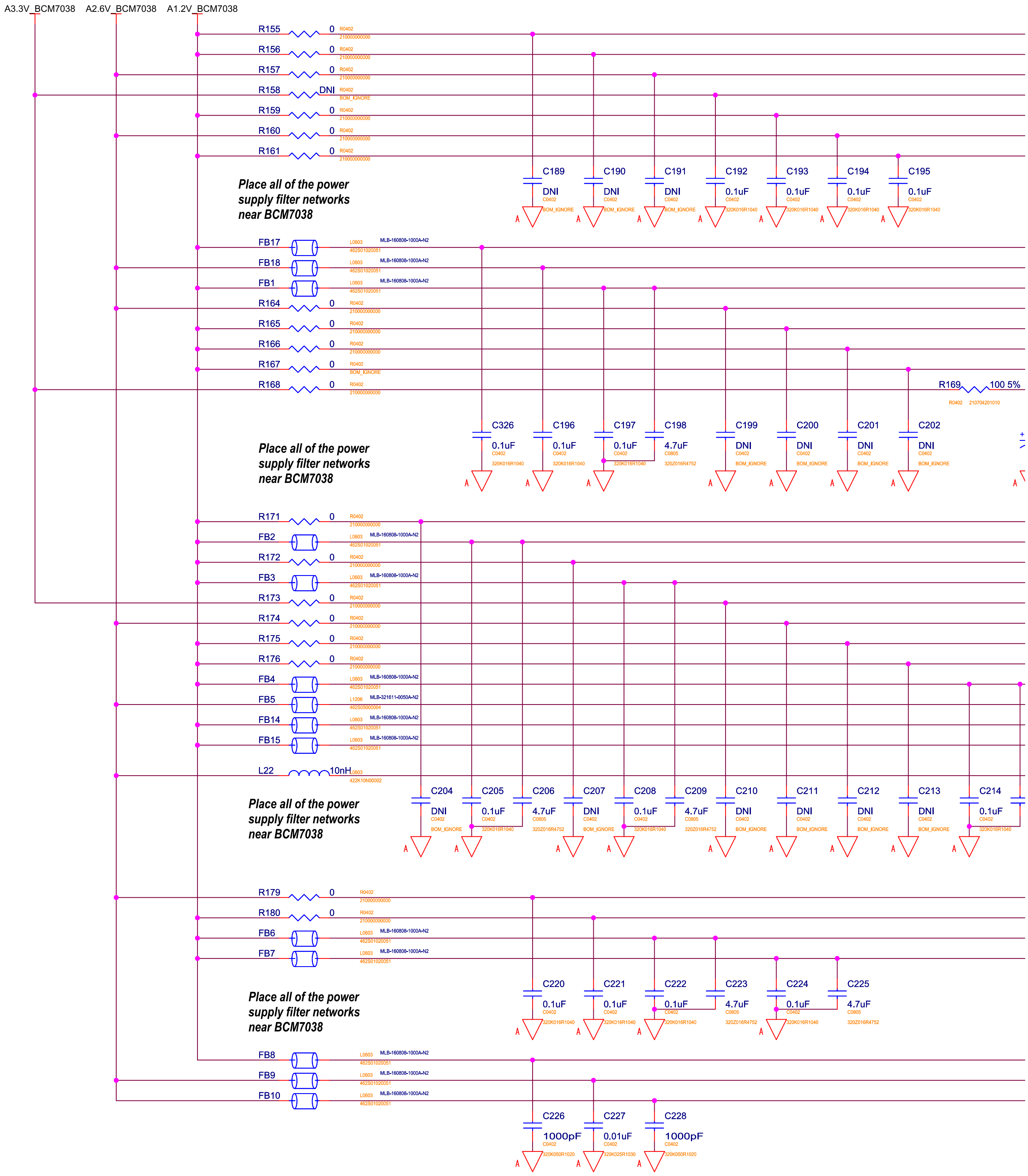

DDR_VREF1
DDR_VREF2
DDR_VREF1
DDR_VREF2

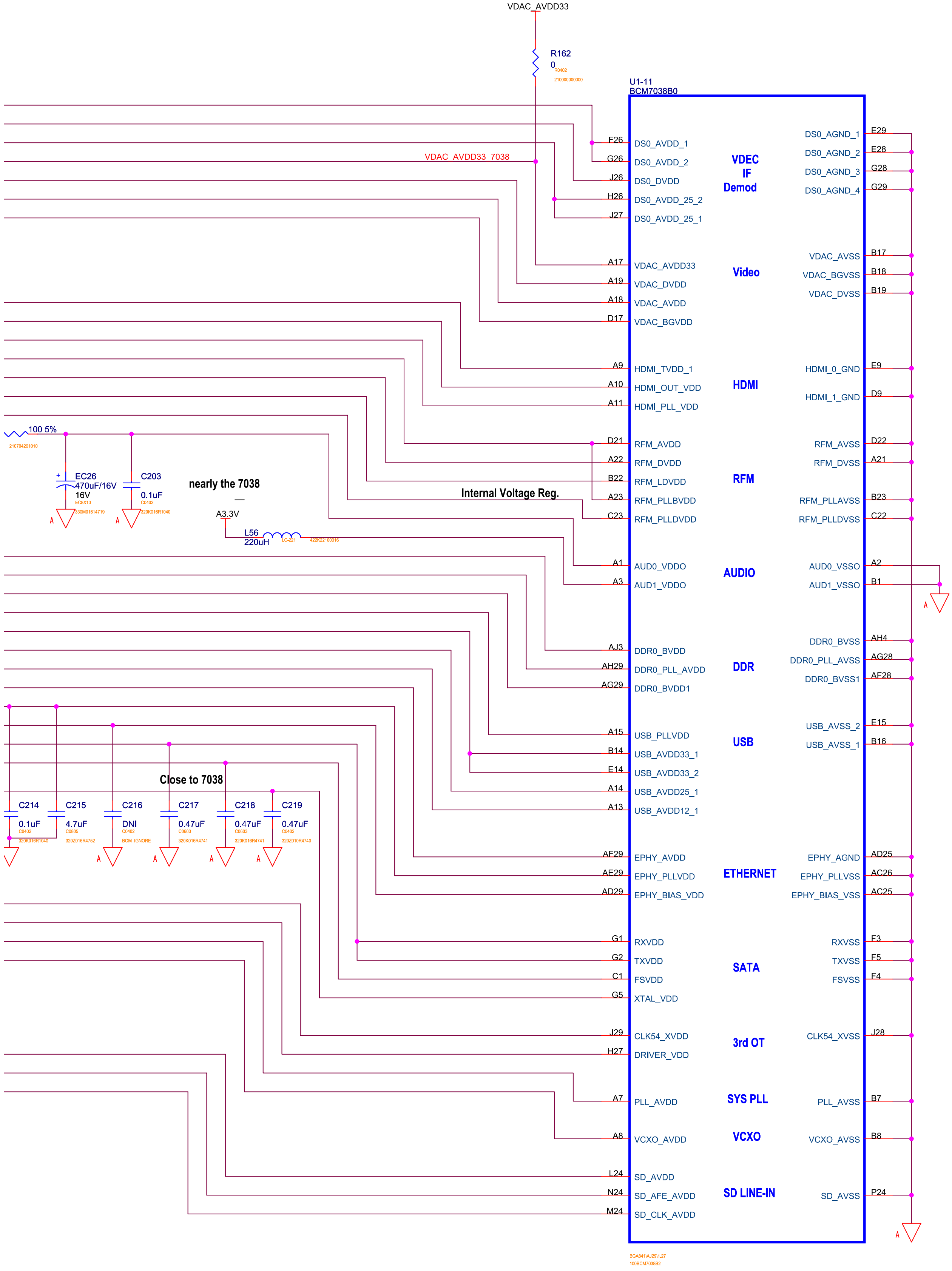

DL6.5V ---> A3.3V
DL6.5V
U11
A3.3V
A3.3V
A3.3V_BCM7038
C503
10uF
EC14
330uF/16V/LZ
C178
1uF
Vin
Vout
Adj
UZ1085
R148
200R3 1%
C504
1uF
C505
10uF
R443
0
300 mA
C179
0.01uF
EC15
680uF/16v
R149
330R3 1%
C180
10nF
R444
0
VDAC_AVDD33
Vout = 1.25V x (R148 + R149)/R148
3.3VFE
R445
0
C449
0.01uF
EC62
680uF/16v
A3.3V_BCM7038
VDAC_AVDD33
3.3VFE


D2.6V_BCM7038
2.6V
750 mA
FB20
EC24
470uF/16V
EC23
470uF/16V
C188
470pF
A2.6V_BCM7038
FB21
EC25
220uF
.25V x (R153 + R154)/R154 = 2.5V
D2.6V_BCM7038
A2.6V_BCM7038

POWER

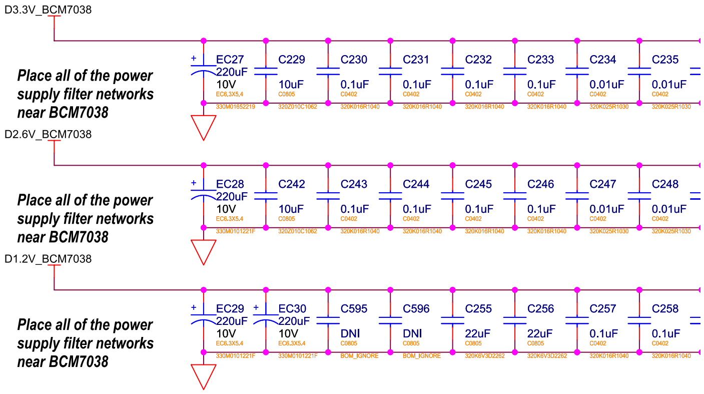
# 9.38 DTV TUNER BOARD (13/16) [ANALOG DECOUPLING BLOCK]

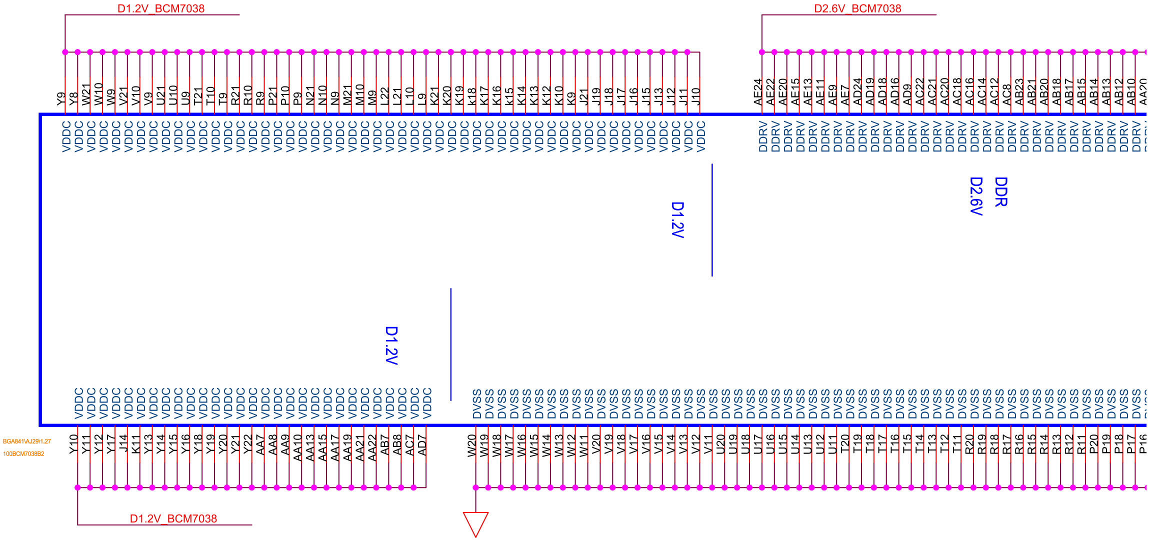

A3.3V_BCM7038
A2.6V_BCM7038
A1.2V_BCM7038
R155 0
R156 0
R157 0
R158 DNI
R159 0
R160 0
R161 0
C189 DNI
C190 DNI
C191 DNI
C192 0.1uF
C193 0.1uF
C194 0.1uF
C195 0.1uF
Place all of the power supply filter networks near BCM7038
FB17
FB18
FB1
R164 0
R165 0
R166 0
R167 0
R168 0
R169 100 5%
C326 0.1uF
C196 0.1uF
C197 0.1uF
C198 4.7uF
C199 DNI
C200 DNI
C201 DNI
C202 DNI
Place all of the power supply filter networks near BCM7038
R171 0
FB2
R172 0
FB3
R173 0
R174 0
R175 0
R176 0
FB4
FB5
FB14
FB15
L22 10nH
C204 DNI
C205 0.1uF
C206 4.7uF
C207 DNI
C208 0.1uF
C209 4.7uF
C210 DNI
C211 DNI
C212 DNI
C213 DNI
C214 0.1uF
Place all of the power supply filter networks near BCM7038
R179 0
R180 0
FB6
FB7
C220 0.1uF
C221 0.1uF
C222 0.1uF
C223 4.7uF
C224 0.1uF
C225 4.7uF
Place all of the power supply filter networks near BCM7038
FB8
FB9
FB10
C226 1000pF
C227 0.01uF
C228 1000pF


VDAC_AVDD33
R162
0
U1-11
BCM7038B0
VDAC_AVDD33_7038
F26 DS0_AVDD_1
G26 DS0_AVDD_2
J26 DS0_DVDD
H26 DS0_AVDD_25_2
J27 DS0_AVDD_25_1
VDEC
IF
Demod
DS0_AGND_1 E29
DS0_AGND_2 E28
DS0_AGND_3 G28
DS0_AGND_4 G29
A17 VDAC_AVDD33
A19 VDAC_DVDD
A18 VDAC_AVDD
D17 VDAC_BGVDD
Video
VDAC_AVSS B17
VDAC_BGVSS B18
VDAC_DVSS B19
A9 HDMI_TVDD_1
A10 HDMI_OUT_VDD
A11 HDMI_PLL_VDD
HDMI
HDMI_0_GND E9
HDMI_1_GND D9
100 5%
EC26
470uF/16V
16V
C203
0.1uF
nearly the 7038
Internal Voltage Reg.
A3.3V
L56
220uH
D21 RFM_AVDD
A22 RFM_DVDD
B22 RFM_LDVDD
A23 RFM_PLLBVDD
C23 RFM_PLLDVDD
RFM
RFM_AVSS D22
RFM_DVSS A21
RFM_PLLAVSS B23
RFM_PLLDVSS C22
A1 AUD0_VDDO
A3 AUD1_VDDO
AUDIO
AUD0_VSSO A2
AUD1_VSSO B1
AJ3 DDR0_BVDD
AH29 DDR0_PLL_AVDD
AG29 DDR0_BVDD1
DDR
DDR0_BVSS AH4
DDR0_PLL_AVSS AG28
DDR0_BVSS1 AF28
A15 USB_PLLVDD
B14 USB_AVDD33_1
E14 USB_AVDD33_2
A14 USB_AVDD25_1
A13 USB_AVDD12_1
USB
USB_AVSS_2 E15
USB_AVSS_1 B16
Close to 7038
C214
0.1uF
C215
4.7uF
C216
DNI
C217
0.47uF
C218
0.47uF
C219
0.47uF
AF29 EPHY_AVDD
AE29 EPHY_PLLVDD
AD29 EPHY_BIAS_VDD
ETHERNET
EPHY_AGND AD25
EPHY_PLLVSS AC26
EPHY_BIAS_VSS AC25
G1 RXVDD
G2 TXVDD
C1 FSVDD
G5 XTAL_VDD
SATA
RXVSS F3
TXVSS F5
FSVSS F4
J29 CLK54_XVDD
H27 DRIVER_VDD
3rd OT
CLK54_XVSS J28
A7 PLL_AVDD
SYS PLL
PLL_AVSS B7
A8 VCXO_AVDD
VCXO
VCXO_AVSS B8
L24 SD_AVDD
N24 SD_AFE_AVDD
M24 SD_CLK_AVDD
SD LINE-IN
SD_AVSS P24

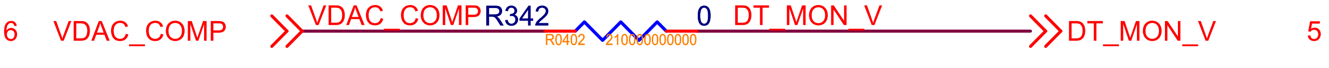
## Analog Decoupling

# 9.39 DTV TUNER BOARD (14/16) [VIDEO BUFFERS, DIGITAL DECOUPLING BLOCK]

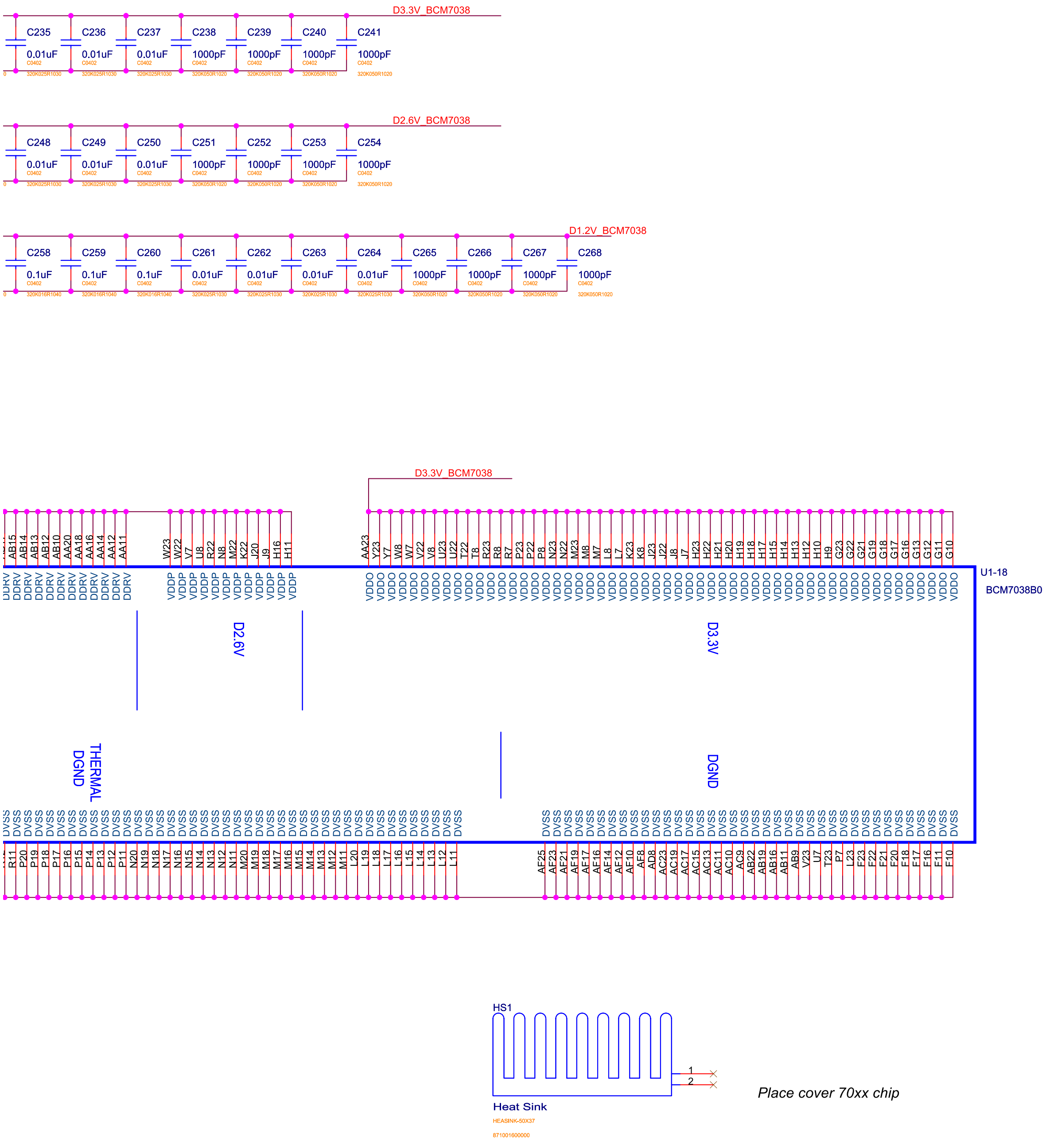

D3.3V_BCM7038
Place all of the power supply filter networks near BCM7038
EC27 220uF 10V
C229 10uF
C230 0.1uF
C231 0.1uF
C232 0.1uF
C233 0.1uF
C234 0.01uF
C235 0.01uF
D2.6V_BCM7038
Place all of the power supply filter networks near BCM7038
EC28 220uF 10V
C242 10uF
C243 0.1uF
C244 0.1uF
C245 0.1uF
C246 0.1uF
C247 0.01uF
C248 0.01uF
D1.2V_BCM7038
Place all of the power supply filter networks near BCM7038
EC29 220uF 10V
EC30 220uF 10V
C595 DNI
C596 DNI
C255 22uF
C256 22uF
C257 0.1uF
C258 0.1uF


D1.2V_BCM7038
D2.6V_BCM7038
Y9 Y8 W21 W10 W9 V21 V10 V9 U21 U10 U9 T21 T10 T9 R21 R10 R9 P21 P10 P9 N21 N10 N9 M21 M10 M9 L22 L21 L10 L9 K21 K20 K19 K18 K17 K16 K15 K14 K13 K12 K10 K9 J21 J19 J18 J17 J16 J15 J13 J12 J11 J10
VDDC
AF24 AE22 AE20 AE15 AE13 AE11 AE9 AE7 AD24 AD19 AD18 AD16 AD9 AC22 AC21 AC20 AC18 AC16 AC14 AC12 AC8 AB23 AB21 AB20 AB18 AB17 AB15 AB14 AB13 AB12 AB10 AA20
DDRV
D1.2V
DDR D2.6V
D1.2V
VDDC
DVSS
Y10 Y11 Y12 Y17 J14 K11 Y13 Y14 Y15 Y16 Y18 Y19 Y20 Y21 Y22 AA7 AA8 AA9 AA10 AA13 AA15 AA17 AA19 AA21 AA22 AB7 AB8 AC7 AD7
W20 W19 W18 W17 W16 W15 W14 W13 W12 W11 V20 V19 V18 V17 V16 V15 V14 V13 V12 V11 U20 U19 U18 U17 U16 U15 U14 U13 U12 U11 T20 T19 T18 T17 T16 T15 T14 T13 T12 T11 R20 R19 R18 R17 R16 R15 R14 R13 R12 R11 P20 P19 P18 P17 P16
D1.2V_BCM7038

**Modify ( Cut video buffer)**


6 VDAC_COMP
VDAC_COMP
R342
0
DT_MON_V
R0402
210000000000
DT_MON_V 5

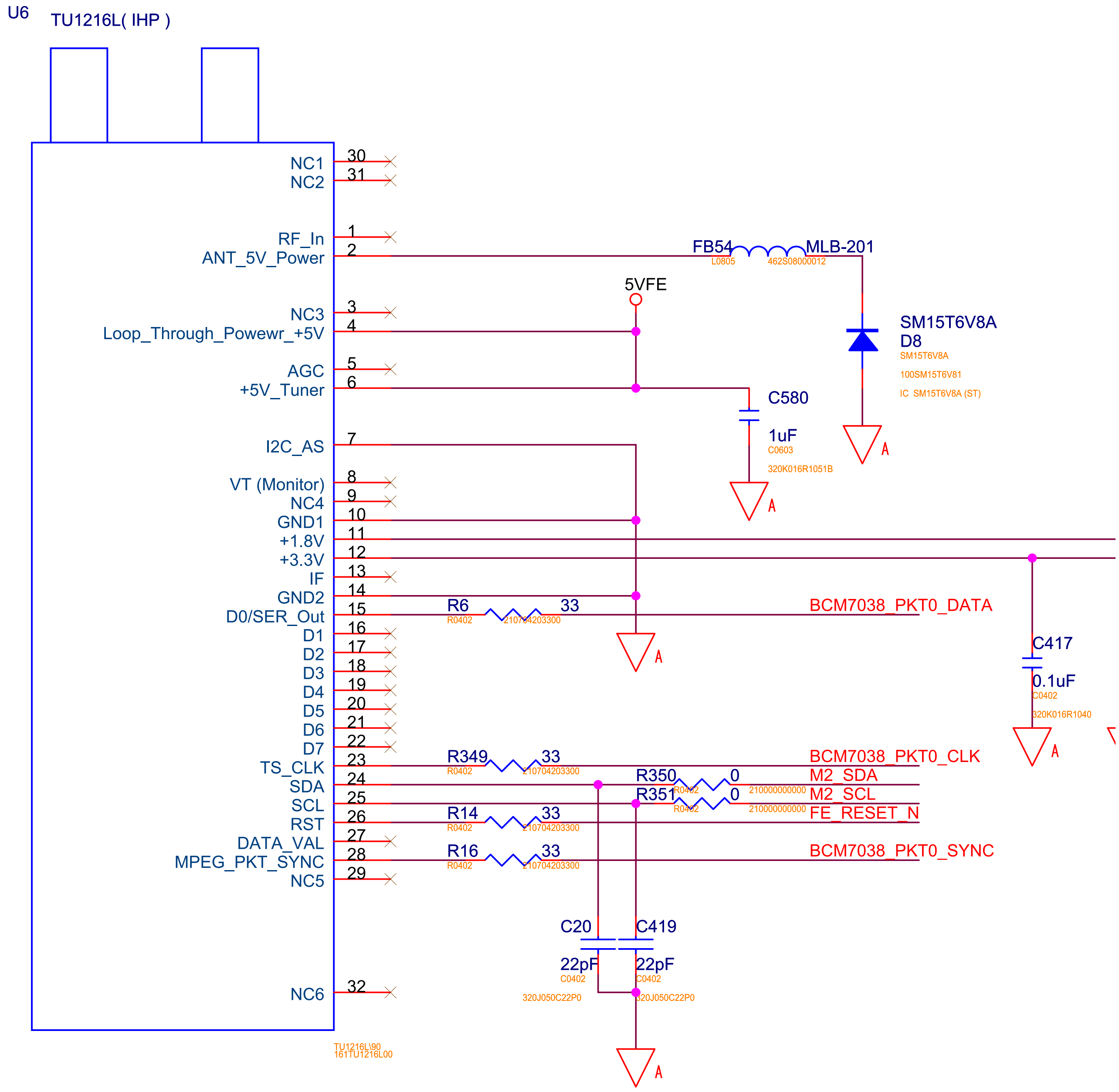
## Video Buffers

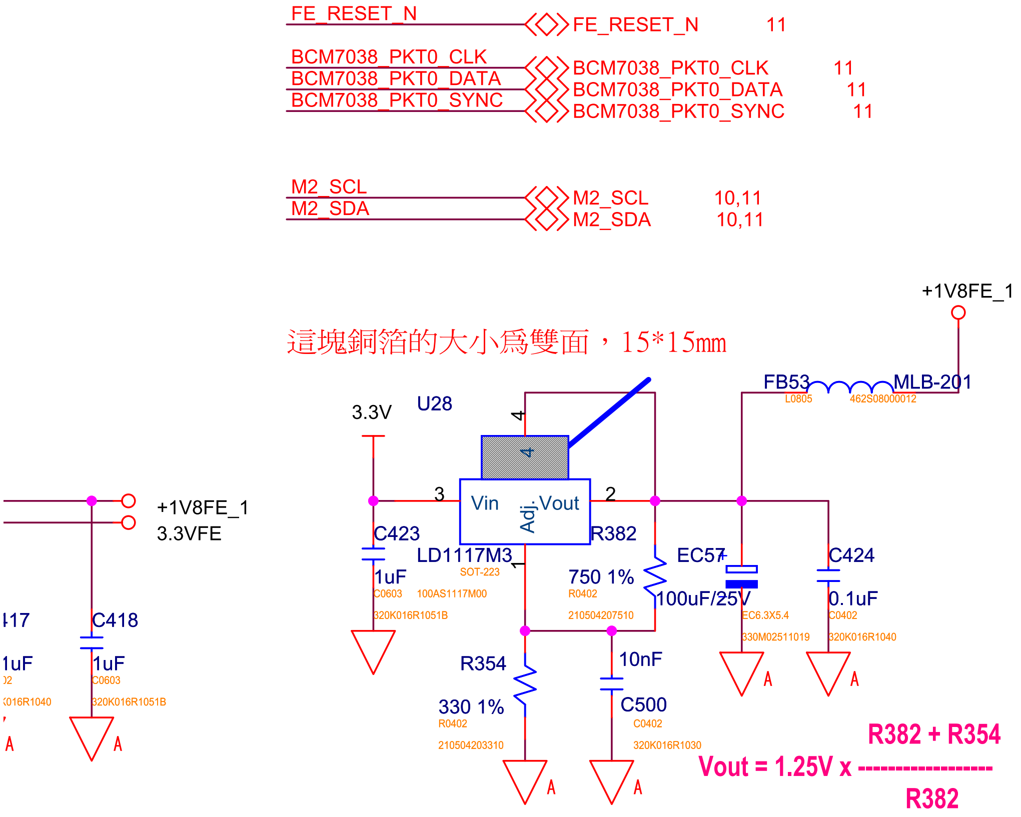

D3.3V_BCM7038
C235 0.01uF C0402
C236 0.01uF C0402
C237 0.01uF C0402
C238 1000pF C0402
C239 1000pF C0402
C240 1000pF C0402
C241 1000pF C0402
D2.6V_BCM7038
C248 0.01uF C0402
C249 0.01uF C0402
C250 0.01uF C0402
C251 1000pF C0402
C252 1000pF C0402
C253 1000pF C0402
C254 1000pF C0402
D1.2V_BCM7038
C258 0.1uF C0402
C259 0.1uF C0402
C260 0.1uF C0402
C261 0.01uF C0402
C262 0.01uF C0402
C263 0.01uF C0402
C264 0.01uF C0402
C265 1000pF C0402
C266 1000pF C0402
C267 1000pF C0402
C268 1000pF C0402
D3.3V_BCM7038
U1-18
BCM7038B0
DDRV
VDDP
VDDO
D2.6V
D3.3V
THERMAL DGND
DGND
DVSS
HS1
1
2
Heat Sink
HEASINK-50X37
871001600000

*Place cover 70xx chip*

Digital Decoupling

# 9.40 DTV TUNER BOARD (15/16) [FRONT END BLOCK]

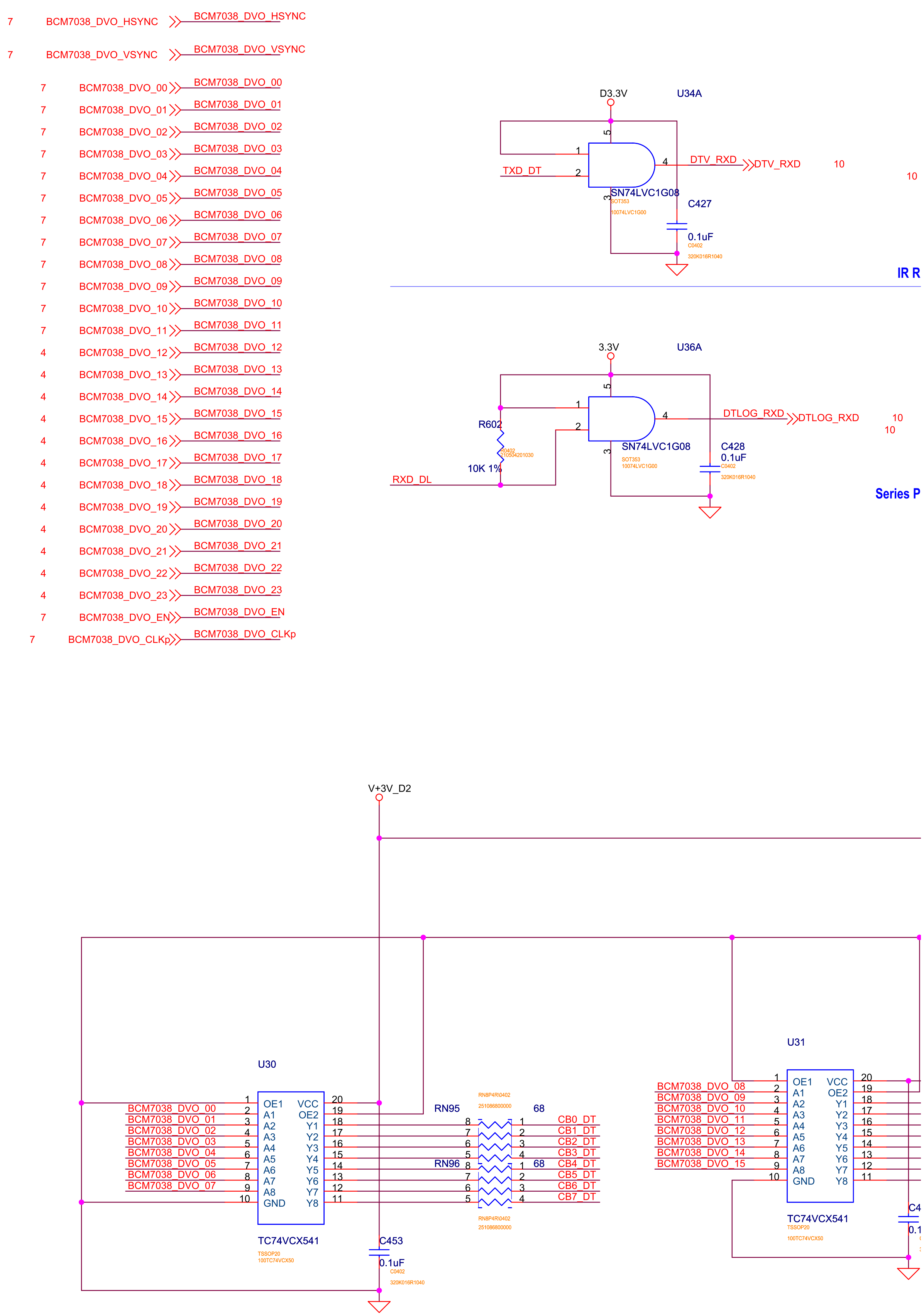

U6
TU1216L( IHP )
NC1 30
NC2 31
RF_In 1
ANT_5V_Power 2
NC3 3
Loop_Through_Powewr_+5V 4
AGC 5
+5V_Tuner 6
I2C_AS 7
VT (Monitor) 8
NC4 9
GND1 10
+1.8V 11
+3.3V 12
IF 13
GND2 14
D0/SER_Out 15
D1 16
D2 17
D3 18
D4 19
D5 20
D6 21
D7 22
TS_CLK 23
SDA 24
SCL 25
RST 26
DATA_VAL 27
MPEG_PKT_SYNC 28
NC5 29
NC6 32
TU1216L\90
161TU1216L00
FB54
L0805
MLB-201
462S08000012
5VFE
SM15T6V8A
D8
SM15T6V8A
100SM15T6V81
IC SM15T6V8A (ST)
C580
1uF
C0603
320K016R1051B
R6
R0402
33
210704203300
BCM7038_PKT0_DATA
C417
0.1uF
C0402
320K016R1040
R349
R0402
33
210704203300
BCM7038_PKT0_CLK
R350
R0402
0
210000000000
M2_SDA
R351
R0402
0
210000000000
M2_SCL
R14
R0402
33
210704203300
FE_RESET_N
R16
R0402
33
210704203300
BCM7038_PKT0_SYNC
C20
22pF
C0402
320J050C22P0
C419
22pF
C0402
320J050C22P0
A


FE_RESET_N
FE_RESET_N 11
BCM7038_PKT0_CLK
BCM7038_PKT0_DATA
BCM7038_PKT0_SYNC
BCM7038_PKT0_CLK 11
BCM7038_PKT0_DATA 11
BCM7038_PKT0_SYNC 11
M2_SCL
M2_SDA
M2_SCL 10,11
M2_SDA 10,11
+1V8FE_1
這塊銅箔的大小爲雙面，15*15mm
FB53
L0805
MLB-201
462S08000012
3.3V
U28
4
4
3
2
Vin
Adj.
Vout
1
LD1117M3
SOT-223
100AS1117M00
C423
1uF
C0603
320K016R1051B
R382
750 1%
R0402
210504207510
EC57
100uF/25V
EC6.3X5.4
330M02511019
C424
0.1uF
C0402
320K016R1040
R354
330 1%
R0402
210504203310
10nF
C500
C0402
320K016R1030
+1V8FE_1
3.3VFE
C418
1uF
C0603
320K016R1051B
1uF
A
A
A
A
A
A
A
R382 + R354
Vout = 1.25V x ------------------
R382

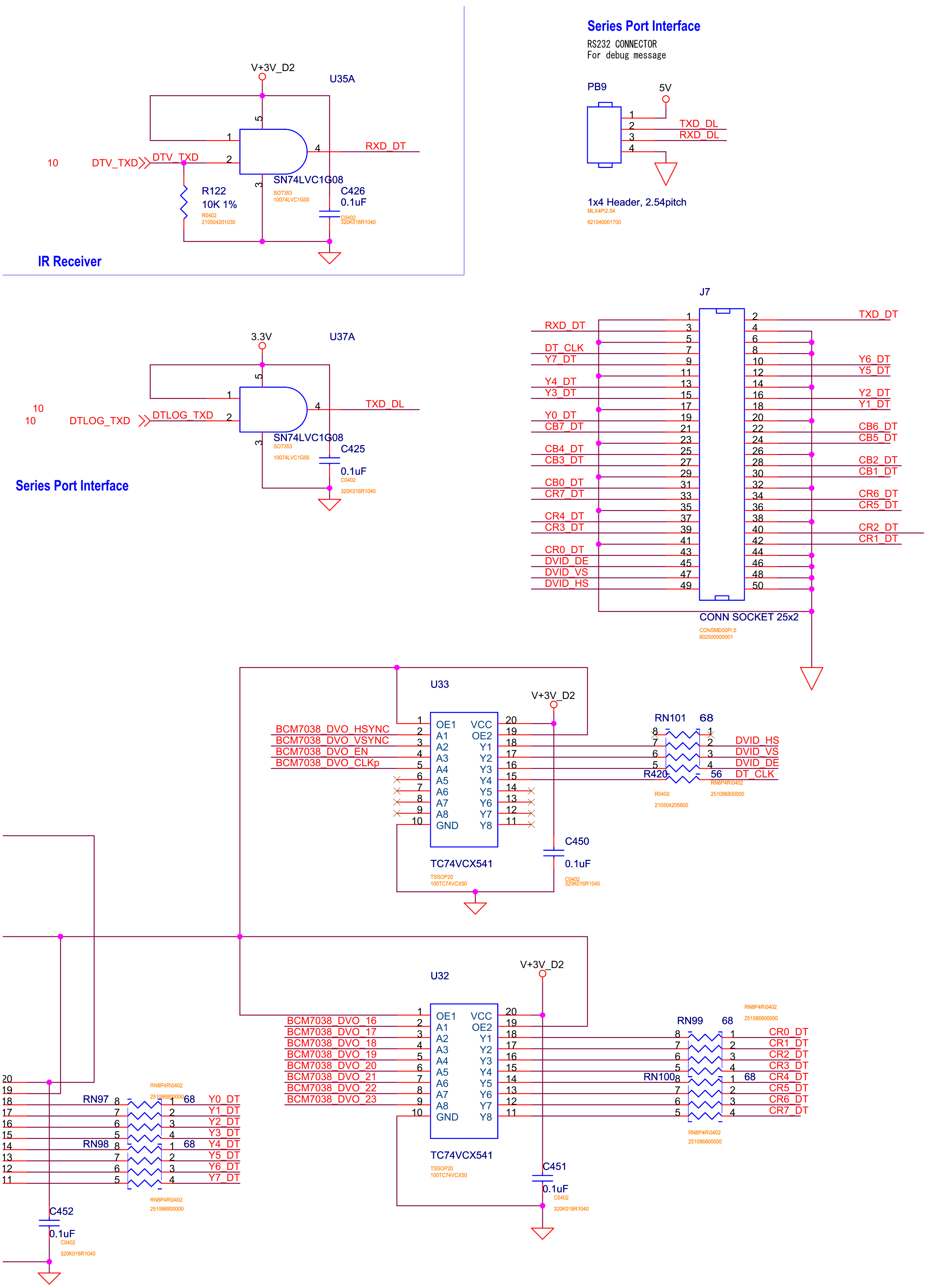
# 3.3V ---> +1V8FE_1

Front End

# 9.41 DTV TUNER BOARD (16/16) [INTER-CONNECTION BLOCK]



7 BCM7038_DVO_HSYNC
BCM7038_DVO_HSYNC
7 BCM7038_DVO_VSYNC
BCM7038_DVO_VSYNC
7 BCM7038_DVO_00
BCM7038_DVO_00
7 BCM7038_DVO_01
BCM7038_DVO_01
7 BCM7038_DVO_02
BCM7038_DVO_02
7 BCM7038_DVO_03
BCM7038_DVO_03
7 BCM7038_DVO_04
BCM7038_DVO_04
7 BCM7038_DVO_05
BCM7038_DVO_05
7 BCM7038_DVO_06
BCM7038_DVO_06
7 BCM7038_DVO_07
BCM7038_DVO_07
7 BCM7038_DVO_08
BCM7038_DVO_08
7 BCM7038_DVO_09
BCM7038_DVO_09
7 BCM7038_DVO_10
BCM7038_DVO_10
7 BCM7038_DVO_11
BCM7038_DVO_11
4 BCM7038_DVO_12
BCM7038_DVO_12
4 BCM7038_DVO_13
BCM7038_DVO_13
4 BCM7038_DVO_14
BCM7038_DVO_14
4 BCM7038_DVO_15
BCM7038_DVO_15
4 BCM7038_DVO_16
BCM7038_DVO_16
4 BCM7038_DVO_17
BCM7038_DVO_17
4 BCM7038_DVO_18
BCM7038_DVO_18
4 BCM7038_DVO_19
BCM7038_DVO_19
4 BCM7038_DVO_20
BCM7038_DVO_20
4 BCM7038_DVO_21
BCM7038_DVO_21
4 BCM7038_DVO_22
BCM7038_DVO_22
4 BCM7038_DVO_23
BCM7038_DVO_23
7 BCM7038_DVO_EN
BCM7038_DVO_EN
7 BCM7038_DVO_CLKp
BCM7038_DVO_CLKp
D3.3V
U34A
TXD_DT
DTV_RXD
DTV_RXD
10
10
SN74LVC1G08
SOT353
10074LVC1G00
C427
0.1uF
C0402
320K016R1040
IR R
3.3V
U36A
R602
C0402
370504201030
10K 1%
RXD_DL
DTLOG_RXD
DTLOG_RXD
10
10
SN74LVC1G08
SOT353
10074LVC1G00
C428
0.1uF
C0402
320K016R1040
Series P
V+3V_D2
U30
OE1
A1
A2
A3
A4
A5
A6
A7
A8
GND
VCC
OE2
Y1
Y2
Y3
Y4
Y5
Y6
Y7
Y8
TC74VCX541
TSSOP20
100TC74VCX50
BCM7038_DVO_00
BCM7038_DVO_01
BCM7038_DVO_02
BCM7038_DVO_03
BCM7038_DVO_04
BCM7038_DVO_05
BCM7038_DVO_06
BCM7038_DVO_07
C453
0.1uF
C0402
320K016R1040
RN95
RN8P4R0402
251086800000
68
RN96
68
RN8P4R0402
251086800000
CB0_DT
CB1_DT
CB2_DT
CB3_DT
CB4_DT
CB5_DT
CB6_DT
CB7_DT
U31
OE1
A1
A2
A3
A4
A5
A6
A7
A8
GND
VCC
OE2
Y1
Y2
Y3
Y4
Y5
Y6
Y7
Y8
TC74VCX541
TSSOP20
100TC74VCX50
BCM7038_DVO_08
BCM7038_DVO_09
BCM7038_DVO_10
BCM7038_DVO_11
BCM7038_DVO_12
BCM7038_DVO_13
BCM7038_DVO_14
BCM7038_DVO_15
C4
0.1


Series Port Interface
RS232 CONNECTOR
For debug message
PB9
5V
TXD_DL
RXD_DL
1x4 Header, 2.54pitch
MLX4P\2.54
621040001700
V+3V_D2
U35A
10
DTV_TXD
DTV_TXD
RXD_DT
SN74LVC1G08
SOT353
10074LVC1G00
R122
10K 1%
R0402
210504201030
C426
0.1uF
C0402
320K016R1040
IR Receiver
3.3V
U37A
10
10
DTLOG_TXD
DTLOG_TXD
TXD_DL
SN74LVC1G08
SOT353
10074LVC1G00
C425
0.1uF
C0402
320K016R1040
Series Port Interface
J7
RXD_DT
DT_CLK
Y7_DT
Y4_DT
Y3_DT
Y0_DT
CB7_DT
CB4_DT
CB3_DT
CB0_DT
CR7_DT
CR4_DT
CR3_DT
CR0_DT
DVID_DE
DVID_VS
DVID_HS
TXD_DT
Y6_DT
Y5_DT
Y2_DT
Y1_DT
CB6_DT
CB5_DT
CB2_DT
CB1_DT
CR6_DT
CR5_DT
CR2_DT
CR1_DT
CONN SOCKET 25x2
CONSMD50P\.5
602500000001
U33
V+3V_D2
BCM7038_DVO_HSYNC
BCM7038_DVO_VSYNC
BCM7038_DVO_EN
BCM7038_DVO_CLKp
OE1 VCC
A1 OE2
A2 Y1
A3 Y2
A4 Y3
A5 Y4
A6 Y5
A7 Y6
A8 Y7
GND Y8
TC74VCX541
TSSOP20
100TC74VCX50
C450
0.1uF
C0402
320K016R1040
RN101 68
DVID_HS
DVID_VS
DVID_DE
R420 56
DT_CLK
RN8P4R\0402
R0402
210504205600
251086800000
U32
V+3V_D2
BCM7038_DVO_16
BCM7038_DVO_17
BCM7038_DVO_18
BCM7038_DVO_19
BCM7038_DVO_20
BCM7038_DVO_21
BCM7038_DVO_22
BCM7038_DVO_23
TC74VCX541
TSSOP20
100TC74VCX50
C451
0.1uF
C0402
320K016R1040
RN99 68
RN8P4R\0402
251086800000
CR0_DT
CR1_DT
CR2_DT
CR3_DT
RN100 68
CR4_DT
CR5_DT
CR6_DT
CR7_DT
RN8P4R\0402
251086800000
RN97 68
RN8P4R\0402
251086800000
Y0_DT
Y1_DT
Y2_DT
Y3_DT
RN98 68
Y4_DT
Y5_DT
Y6_DT
Y7_DT
RN8P4R\0402
251086800000
C452
0.1uF
C0402
320K016R1040
A
B
C
D
E
F

Inter-Connection

## 9.42 VOLTAGES

**DIGITAL Assy** **MTB MAIN Assy**

| D11 CN3001(AKM1349) | | Voltage (V) | M1 CN4101(AKM1349) | |
|---|---|---|---|---|
| No. | Name | | Name | No. |
| 1 | GND | 0 | GND | 50 |
| 2 | NC | 0 | LVDS_ON | 49 |
| 3 | REQ_MD | 0 | REQ_MD | 48 |
| 4 | RXD_MD | 3.3 | RXD_MD | 47 |
| 5 | TXD_MD | 3.3 | TXD_MD | 46 |
| 6 | GND | 0 | GND | 45 |
| 7 | GND | 0 | GND | 44 |
| 8 | GND | 0 | LVDS_E1+ | 43 |
| 9 | GND | 0 | LVDS_E1- | 42 |
| 10 | GND | 0 | GND | 41 |
| 11 | GND | 0 | LVDS_D1+ | 40 |
| 12 | GND | 0 | LVDS_D1- | 39 |
| 13 | GND | 0 | GND | 38 |
| 14 | GND | 0 | LVDS_CLK1+ | 37 |
| 15 | GND | 0 | LVDS_CLK1- | 36 |
| 16 | GND | 0 | GND | 35 |
| 17 | GND | 0 | LVDS_C1+ | 34 |
| 18 | GND | 0 | LVDS_C1- | 33 |
| 19 | GND | 0 | GND | 32 |
| 20 | GND | 0 | LVDS_B1+ | 31 |
| 21 | GND | 0 | LVDS_B1- | 30 |
| 22 | GND | 0 | GND | 29 |
| 23 | GND | 0 | LVDS_A1+ | 28 |
| 24 | GND | 0 | LVDS_A1- | 27 |
| 25 | GND | 0 | GND | 26 |
| 26 | GND | 0 | GND | 25 |
| 27 | LVDS_E0+ | 0.7Vp-p | LVDS_E0+ | 24 |
| 28 | LVDS_E0- | 0.7Vp-p | LVDS_E0- | 23 |
| 29 | GND | 0 | GND | 22 |
| 30 | LVDS_D0+ | 0.7Vp-p | LVDS_D0+ | 21 |
| 31 | LVDS_D0- | 0.7Vp-p | LVDS_D0- | 20 |
| 32 | GND | 0 | GND | 19 |
| 33 | LVDS_CLK0+ | 0.7Vp-p | LVDS_CLK0+ | 18 |
| 34 | LVDS_CLK0- | 0.7Vp-p | LVDS_CLK0- | 17 |
| 35 | GND | 0 | GND | 16 |
| 36 | LVDS_C0+ | 0.7Vp-p | LVDS_C0+ | 15 |
| 37 | LVDS_C0- | 0.7Vp-p | LVDS_C0- | 14 |
| 38 | GND | 0 | GND | 13 |
| 39 | LVDS_B0+ | 0.7Vp-p | LVDS_B0+ | 12 |
| 40 | LVDS_B0- | 0.7Vp-p | LVDS_B0- | 11 |
| 41 | GND | 0 | GND | 10 |
| 42 | LVDS_A0+ | 0.7Vp-p | LVDS_A0+ | 9 |
| 43 | LVDS_A0- | 0.7Vp-p | LVDS_A0- | 8 |
| 44 | GND | 0 | GND | 7 |
| 45 | GND | 0 | GND | 6 |
| 46 | GND | 0 | (MSEL) | 5 |
| 47 | GND | 0 | RELAY2 | 4 |
| 48 | V+3V_ACTV | 3.3 | V+3_3V_UCOM | 3 |
| 49 | GND | 0 | MODE | 2 |
| 50 | GND | 0 | GND | 1 |

**MTB TANSHI Ass'y** **MTB MAIN Ass'y**

| IO5 CN8805(AKM1377-) | | Voltage | M9 CN4008(AKP1320-) | |
|---|---|---|---|---|
| No. | Name | (V) | Name | No. |
| 1 | GND | 0 | GND | 1 |
| 2 | V+8V_AU | 8.0 | V+8V_AU | 2 |
| 3 | GND | 0 | GND | 3 |
| 4 | V+3_3V_AU_A | 3.3 | V+3_3V_AU_A | 4 |
| 5 | GND | 0 | GND | 5 |
| 6 | V+3_3V_AU_D | 3.3 | V+3_3V_AU_D | 6 |
| 7 | GND | 0 | GND | 7 |

**MTB TANSHI Ass'y** **MTB MAIN Ass'y**

| IO3 CN8803(AKM1348- -TBB) | | Voltage | M8 CN4001(AKM1348- -TBB) | |
|---|---|---|---|---|
| No. | Name | (V) | Name | No. |
| 1 | GND | 0 | GND | 40 |
| 2 | IO_DET | 0 | IO_DET | 39 |
| 3 | A_NG_B | 2.8 | A_NG_B | 38 |
| 4 | OTW | 3.3 | OTW | 37 |
| 5 | RST_MSP | 3.3 | RST_MSP | 36 |
| 6 | AC_A_MUTE | 0 | AC_A_MUTE | 35 |
| 7 | SDA_AV | 3.4 | SDA_AV | 34 |
| 8 | SCL_AV | 3.4 | SCL_AV | 33 |
| 9 | GND | 0 | GND | 32 |
| 10 | I2S_SDATA_EMMA(DTB) | 0to3.3 | I2S_SDATA_EMMA(DTB) | 31 |
| 11 | I2S_LRCLK_EMMA(DTB) | 0to3.3 | I2S_LRCLK_EMMA(DTB) | 30 |
| 12 | I2S_BCLK_EMMA(DTB) | 0to3.3 | I2S_BCLK_EMMA(DTB) | 29 |
| 13 | GND | 0 | GND | 28 |
| 14 | I2S_BCLK_HDMI | 0to3.3 | I2S_BCLK_HDMI | 27 |
| 15 | I2S_LRCLK_HDMI | 0to3.3 | I2S_LRCLK_HDMI | 26 |
| 16 | I2S_SDATA_HDMI | 0to3.3 | I2S_SDATA_HDMI | 25 |
| 17 | GND | 0 | GND | 24 |
| 18 | SPDIF_EMMA(DTB) | 0to3.3 | SPDIF_EMMA(DTB) | 23 |
| 19 | GND | 0 | GND | 22 |
| 20 | GND | 0 | GND | 21 |
| 21 | GND | 0 | GND | 20 |
| 22 | AC_HP_MUTE | 0 | AC_HP_MUTE | 19 |
| 23 | GND | 0 | GND | 18 |
| 24 | MON_MUTE | 0 | MON_MUTE | 17 |
| 25 | GND | 0 | GND | 16 |
| 26 | GND | 0 | GND | 15 |
| 27 | HP_PLUG | 2.9 | HP_PLUG | 14 |
| 28 | INPUT3_SPLUG | 4.9 | INPUT3_SPLUG | 13 |
| 29 | INPUT2_SPLUG | 4.9 | INPUT2_SPLUG | 12 |
| 30 | INPUT1_SPLUG | 4.9 | INPUT1_SPLUG | 11 |
| 31 | GND | 0 | GND | 10 |
| 32 | INPUT1_PLUG | 0 | INPUT1_PLUG | 9 |
| 33 | INPUT2_PLUG | 0 | INPUT2_PLUG | 8 |
| 34 | GND | 0 | GND | 7 |
| 35 | AIR SIF | 0to5.0 | AIR SIF | 6 |
| 36 | GND | 0 | GND | 5 |
| 37 | N.C. | - | N.C. | 4 |
| 38 | V+3.3V_STB | 3.3 | V+3.3V_STB | 3 |
| 39 | N.C. | 0 | N.C. | 2 |
| 40 | V+5V_A | 5.0 | V+5V_A | 1 |

**MTB TANSHI Ass'y** **MTB MAIN Ass'y**

| IO4 CN8804(AKM1349- -TBB) | | Voltage | M6 CN4004(AKM1349- -TBB) | |
|---|---|---|---|---|
| No. | Name | (V) | Name | No. |
| 1 | GND | 0 | GND | 50 |
| 2 | AIR SIF | 0to5.0 | AIR SIF | 49 |
| 3 | GND | 0 | GND | 48 |
| 4 | (AIR_L) | 2Vrms | (AIR_L) | 47 |
| 5 | GND | 0 | GND | 46 |
| 6 | (AIR_R) | 2Vrms | (AIR_R) | 45 |
| 7 | GND | 0 | GND | 44 |
| 8 | INPUT1_Pr | 0.7Vp-p | INPUT1_Pr | 43 |
| 9 | GND | 0 | GND | 42 |
| 10 | INPUT1_Pb | 0.7Vp-p | INPUT1_Pb | 41 |
| 11 | GND | 0 | GND | 40 |
| 12 | INPUT1_Y | 1.0Vp-p | INPUT1_Y | 39 |
| 13 | GND | 0 | GND | 38 |
| 14 | INPUT2_Pr | 0.7Vp-p | INPUT2_Pr | 37 |
| 15 | GND | 0 | GND | 36 |
| 16 | INPUT2_Pb | 0.7Vp-p | INPUT2_Pb | 35 |
| 17 | GND | 0 | GND | 34 |
| 18 | INPUT2_Y | 1.0Vp-p | INPUT2_Y | 33 |
| 19 | GND | 0 | GND | 32 |
| 20 | INPUT3_SY | 1.0Vp-p | INPUT3_SY | 31 |
| 21 | GND | 0 | GND | 30 |
| 22 | INPUT2_SY | 1.0Vp-p | INPUT2_SY | 29 |
| 23 | GND | 0 | GND | 28 |
| 24 | INPUT1_SC | 0.286Vp-p | INPUT1_SC | 27 |
| 25 | GND | 0 | GND | 26 |
| 26 | INPUT3_SC | 0.286Vp-p | INPUT3_SC | 25 |
| 27 | GND | 0 | GND | 24 |
| 28 | INPUT3_V | 1.0Vp-p | INPUT3_V | 23 |
| 29 | GND | 0 | GND | 22 |
| 30 | INPUT2_SC | 0.286Vp-p | INPUT2_SC | 21 |
| 31 | GND | 0 | GND | 20 |
| 32 | INPUT2_V | 1.0Vp-p | INPUT2_V | 19 |
| 33 | GND | 0 | GND | 18 |
| 34 | GND | 0 | GND | 17 |
| 35 | INPUT1_SY | 1.0Vp-p | INPUT1_SY | 16 |
| 36 | GND | 0 | GND | 15 |
| 37 | MON_OUT | 1.0Vp-p | MON_OUT | 14 |
| 38 | GND | 0 | GND | 13 |
| 39 | INPUT1_V | 1.0Vp-p | INPUT1_V | 12 |
| 40 | GND | 0 | GND | 11 |
| 41 | SIDE_SC | 0.286Vp-p | SIDE_SC | 10 |
| 42 | GND | 0 | GND | 9 |
| 43 | SIDE_SY | 1.0Vp-p | SIDE_SY | 8 |
| 44 | GND | 0 | GND | 7 |
| 45 | SIDE_V | 1.0Vp-p | SIDE_V | 6 |
| 46 | SIDE_S2 | 0to5.0 | SIDE_S2 | 5 |
| 47 | SIDE_SPLUG | 4.9 | SIDE_SPLUG | 4 |
| 48 | V+3.3V_UCOM | 3.3 | V+3.3V_UCOM | 3 |
| 49 | TEMP2 | 3.3 | TEMP2 | 2 |
| 50 | GND | 0 | GND | 1 |

**POWER SUPPLY UNIT** **MTB MAIN Ass'y**

| | | Voltage (V) | M3 CN4105(KM200NA15) | |
|---|---|---|---|---|
| No. | Name | | Name | No. |
| 1 | | 6.5 | V+6_5V | 1 |
| 2 | | 6.5 | V+6_5V | 2 |
| 3 | | 0 | GND | 3 |
| 4 | | 12.0 | V+12V | 4 |
| 5 | | 0 | GND | 5 |
| 6 | | 16.5 | V+16_5V | 6 |
| 7 | | 0 | GND | 7 |
| 8 | | 5.1 | V+5_1V | 8 |
| 9 | | 5.1 | V+5_1V | 9 |
| 10 | | 5.1 | V+5_1V | 10 |
| 11 | | 5.1 | V+5_1V | 11 |
| 12 | | 5.1 | V+5_1V | 12 |
| 13 | | 0 | GND | 13 |
| 14 | | 0 | GND | 14 |
| 15 | | 0 | GND | 15 |

**POWER SUPPLY UNIT** **MTB MAIN Ass'y**

| | | Voltage (V) | M2 CN4106(KM200NA12) | |
|---|---|---|---|---|
| No. | Name | | Name | No. |
| 1 | | 3.4 | M_SW_DET | 1 |
| 2 | | 3.4 | AC_DET | 2 |
| 3 | | - | NC(RELAY) | 3 |
| 4 | | 0 | GND | 4 |
| 5 | | 3.3 | V+3_3V_STB | 5 |
| 6 | | 0 | GND | 6 |
| 7 | | 5.1 | V+5_1V_STB | 7 |
| 8 | | 0 | GND | 8 |
| 9 | | 35.0 | V+35V | 9 |
| 10 | | 0 | GND | 10 |
| 11 | | 0 | US_SW | 11 |
| 12 | | 0 | GND | 12 |

**FAN** **MTB MAIN Ass'y**

| | | Voltage (V) | M4 CN4103(KM200NA3) | |
|---|---|---|---|---|
| No. | Name | | Name | No. |
| | | 0 | FAN_VCC | 1 |
| | | 3.4 | FAN_NG1 | 2 |
| | | 0 | GND | 3 |

**Speaker Terminal** **MTB TANSHI Ass'y**

| IO9 CN9301(KM200NA4) | | Voltage (V) | IO8 CN9251(KM200NA8) | |
|---|---|---|---|---|
| No. | Name | | Name | No. |
| | | - | RH+ | 1 |
| 1 | R+ | 8.5 | RL+ | 2 |
| | | - | RH- | 3 |
| 2 | R- | 8.5 | RL- | 4 |
| 4 | L+ | 8.5 | LL+ | 5 |
| | | - | LH+ | 6 |
| 3 | L- | 8.5 | LL- | 7 |
| | | - | LH- | 8 |

**POWER SUPPLY UNIT** **MTB TANSHI Ass'y**

| | | Voltage (V) | IO6 CN8806(B5P-VH) | |
|---|---|---|---|---|
| No. | Name | | Name | No. |
| | | 17 | V+16_5V | 1 |
| | | 17 | V+16_5V | 2 |
| | | - | GND | 3 |
| | | - | GND | 4 |
| | | - | GND | 5 |

**LED** **MTB MAIN Ass'y**

| | | Voltage (V) | M11 CN4107(KM200NA6) | |
|---|---|---|---|---|
| No. | Name | | Name | No. |
| | | 0 | LED- | 1 |
| | | 3.3 | LED_ON | 2 |
| | | 3.3 | LED_OFF | 3 |
| | | 3.3 | LED_TIMER | 4 |
| | | 0 | LED- | 5 |
| | | 0 | LED- | 6 |

**REM/KEY** **MTB MAIN Ass'y**

| | | Voltage (V) | M15 CN4109(KM200NA11) | |
|---|---|---|---|---|
| No. | Name | | Name | No. |
| | | 0 | GND | 1 |
| | | 3.3 | RLS_L/RLS_G | 2 |
| | | 3.3 | V+3_3V_UCOM | 3 |
| | | 5.1 | V+5_1V_STB | 4 |
| | | 0 | REM | 5 |
| | | 0 | GND | 6 |
| | | - | NC | 7 |
| | | 0 | GND | 8 |
| | | 3.3 | KEY2 | 9 |
| | | 3.3 | KEY1 | 10 |
| | | 3.3 | V+3_3V_STB | 11 |

**USB** **MTB MAIN Ass'y**

| | | Voltage (V) | M21 CN4108(KM200NA4) | |
|---|---|---|---|---|
| No. | Name | | Name | No. |
| | | 5.0 | VBUS | 1 |
| | | 0 | D- | 2 |
| | | 0 | D+ | 3 |
| | | 0 | GND | 4 |
| | | 0 | SHIELD | 5 |

**SIDE IO A'ssy** **MTB TASHI Ass'y**

| S1 CN9351(KM200NA11) | | Voltage (V) | IO1 CN8801(KM20NA11L) | |
|---|---|---|---|---|
| No. | Name | | Name | No. |
| 1 | SIDE_SPLUG | 4.9 | SIDE_SPLUG | 1 |
| 2 | GND | - | GND | 2 |
| 3 | SIDE_V | - | SIDE_V | 3 |
| 4 | GND | - | GND | 4 |
| 5 | SIDE_R | - | SIDE_R | 5 |
| 6 | GND | - | GND | 6 |
| 7 | SIDE_L | - | SIDE_L | 7 |
| 8 | GND | - | GND | 8 |
| 9 | SIDE_SC | - | SIDE_SC | 9 |
| 10 | GND | - | GND | 10 |
| 11 | SIDE_SY | - | SIDE_SY | 11 |

**SIDE IO A'ssy** **MTB TASHI Ass'y**

| S2 CN9352(KM200NA5) | | Voltage (V) | IO2 CN8802(KM20NA5L) | |
|---|---|---|---|---|
| No. | Name | | Name | No. |
| 1 | HP_PLUG | 2.9 | HP_PLUG | 1 |
| 2 | GND | - | GND | 2 |
| 3 | HP_R | - | HP_R | 3 |
| 4 | GND | - | GND | 4 |
| 5 | HP_L | - | HP_L | 5 |

**DTV Ass'y** **MTB MAIN Ass'y**

| J10(CONNECTOR EDGE 20x2) | | Voltage (V) | M24 CN4012(AKM1354- -TFB) | |
|---|---|---|---|---|
| No. | Name | | Name | No. |
| 1 | GND | 0 | GND | 1 |
| 2 | DT_MON_V | 0.4/1.4 | DT_MON_V | 2 |
| 3 | GND | 0 | GND | 3 |
| 4 | GND | 0 | GND | 4 |
| 5 | GND | 0 | GND | 5 |
| 6 | GND | 0 | GND | 6 |
| 7 | GND | 0 | GND | 7 |
| 8 | GND | 0 | GND | 8 |
| 9 | GND | 0 | GND | 9 |
| 10 | GND | 0 | GND | 10 |
| 11 | GND | 0 | GND | 11 |
| 12 | GND | 0 | GND | 12 |
| 13 | GND | 0 | GND | 13 |
| 14 | GND | 0 | GND | 14 |
| 15 | NC | 0 | GND | 15 |
| 16 | GND | 0 | GND | 16 |
| 17 | GND | 0 | GND | 17 |
| 18 | NC | 0 | GND | 18 |
| 19 | GND | 0 | GND | 19 |
| 20 | GND | 0 | GND | 20 |
| 21 | GND | 0 | GND | 21 |
| 22 | GND | 0 | GND | 22 |
| 23 | GND | 0 | GND | 23 |
| 24 | AUD_SPDIF | 0to3.3 | SPDIF_HDDTB | 24 |
| 25 | GND | 0 | GND | 25 |
| 26 | I2S_SCLK | 0to3.3 | I2S_BCLK_HDDTB | 26 |
| 27 | GND | 0 | GND | 27 |
| 28 | I2S_LR | 0to3.3 | I2S_LRCLK_HDDTB | 28 |
| 29 | GND | 0 | GND | 29 |
| 30 | I2S_DATA | 0to3.3 | I2S_SDATA_HDDTB | 30 |
| 31 | GND | 0 | GND | 31 |
| 32 | GND | 0 | GND | 32 |
| 33 | GND | 0 | GND | 33 |
| 34 | GND | 0 | GND | 34 |
| 35 | GND | 0 | GND | 35 |
| 36 | GND | 0 | ANT_POW_DET | 36 |
| 37 | GND | 0 | N.C | 37 |
| 38 | DTV_RST_N | 3.38 | RST_DT | 38 |
| 39 | DTB_DET | 0 | DT_DET | 39 |
| 40 | GND | 0 | GND | 40 |

**DTV Ass'y** **MTB MAIN Ass'y**

| J6(12 HEADER) | | Voltage (V) | M22 CN4014(KM20NA12) | |
|---|---|---|---|---|
| No. | Name | | Name | No. |
| 1 | NC | 0 | DD_RESET_DA | 1 |
| 2 | GND | 0 | GND | 2 |
| 3 | NC | 5.0 | V+5V_AS | 3 |
| 4 | GND | 0 | GND | 4 |
| 5 | V+12V | 12.0 | V+12V | 5 |
| 6 | GND | 0 | GND | 6 |
| 7 | V+6_5V | 6.5 | V+6_5V | 7 |
| 8 | NC | 5.1 | V+5_1V_STB | 8 |
| 9 | V+5_1V | 5.1 | V+5_1V | 9 |
| 10 | V+5_1V | 5.1 | V+5_1V | 10 |
| 11 | GND | 0 | GND | 11 |
| 12 | V+3V_D2 | 3.3 | V+3_3V_D2 | 12 |

**DTV Ass'y** **MTB MAIN Ass'y**

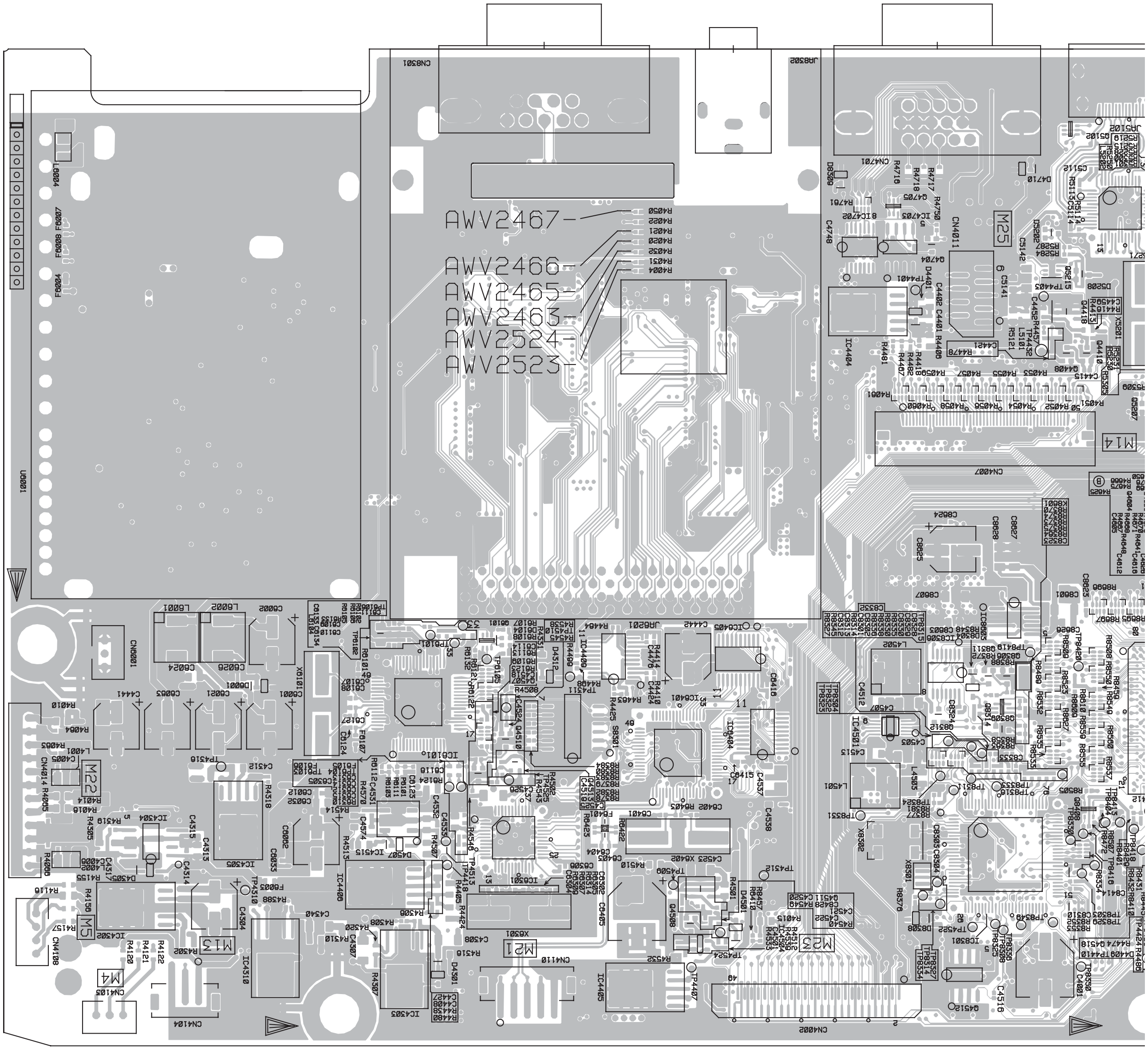
| J7(CONN SOCKET 25x2) | | Voltage (V) | M23 CN4002(AKM1353- -TFB) | |
|---|---|---|---|---|
| No. | Name | | Name | No. |
| 1 | GND | 0 | GND | 1 |
| 2 | TXD_DT | 3.44 | TXD_DT | 2 |
| 3 | RXD_DT | 3.44 | RXD_DT | 3 |
| 4 | GND | 0 | GND | 4 |
| 5 | GND | 0 | NC | 5 |
| 6 | GND | 0 | GND | 6 |
| 7 | DT_CLK | 0/3.5 | CLK_DT | 7 |
| 8 | GND | 0 | GND | 8 |
| 9 | Y7_DT | 0/3.4 | Y7_DT | 9 |
| 10 | Y6_DT | 0/3.4 | Y6_DT | 10 |
| 11 | GND | 0 | GND | 11 |
| 12 | Y5_DT | 0/3.4 | Y5_DT | 12 |
| 13 | Y4_DT | 0/3.4 | Y4_DT | 13 |
| 14 | GND | 0 | GND | 14 |
| 15 | Y3_DT | 0/3.4 | Y3_DT | 15 |
| 16 | Y2_DT | 0/3.4 | Y2_DT | 16 |
| 17 | GND | 0 | GND | 17 |
| 18 | Y1_DT | 0/3.4 | Y1_DT | 18 |
| 19 | Y0_DT | 0/3.4 | Y0_DT | 19 |
| 20 | GND | 0 | GND | 20 |
| 21 | CB7_DT | 0/3.4 | CB7_DT | 21 |
| 22 | CB6_DT | 0/3.4 | CB6_DT | 22 |
| 23 | GND | 0 | GND | 23 |
| 24 | CB5_DT | 0/3.4 | CB5_DT | 24 |
| 25 | CB4_DT | 0/3.4 | CB4_DT | 25 |
| 26 | GND | 0 | GND | 26 |
| 27 | CB3_DT | 0/3.4 | CB3_DT | 27 |
| 28 | CB2_DT | 0/3.4 | CB2_DT | 28 |
| 29 | GND | 0 | GND | 29 |
| 30 | CB1_DT | 0/3.4 | CB1_DT | 30 |
| 31 | CB0_DT | 0/3.4 | CB0_DT | 31 |
| 32 | GND | 0 | GND | 32 |
| 33 | CR7_DT | 0/3.4 | CR7_DT | 33 |
| 34 | CR6_DT | 0/3.4 | CR6_DT | 34 |
| 35 | GND | 0 | GND | 35 |
| 36 | CR5_DT | 0/3.4 | CR5_DT | 36 |
| 37 | CR4_DT | 0/3.4 | CR4_DT | 37 |
| 38 | GND | 0 | GND | 38 |
| 39 | CR3_DT | 0/3.4 | CR3_DT | 39 |
| 40 | CR2_DT | 0/3.4 | CR2_DT | 40 |
| 41 | GND | 0 | GND | 41 |
| 42 | CR1_DT | 0/3.4 | CR1_DT | 42 |
| 43 | CR0_DT | 0/3.4 | CR0_DT | 43 |
| 44 | GND | 0 | GND | 44 |
| 45 | DVID_DE | 0/3.3 | DE_DT | 45 |
| 46 | GND | 0 | GND | 46 |
| 47 | DVID_VS | 0/3.3 | VD_DT | 47 |
| 48 | GND | 0 | GND | 48 |
| 49 | DVID_HS | 0/3.3 | HD_DT | 49 |
| 50 | GND | 0 | GND | 50 |

# 10. PCB CONNECTION DIAGRAM

## 10.1 MAIN ASSY

### MAIN ASSY

**SIDE A**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AWV2465
AWV2463
AWV2524
AWV2523
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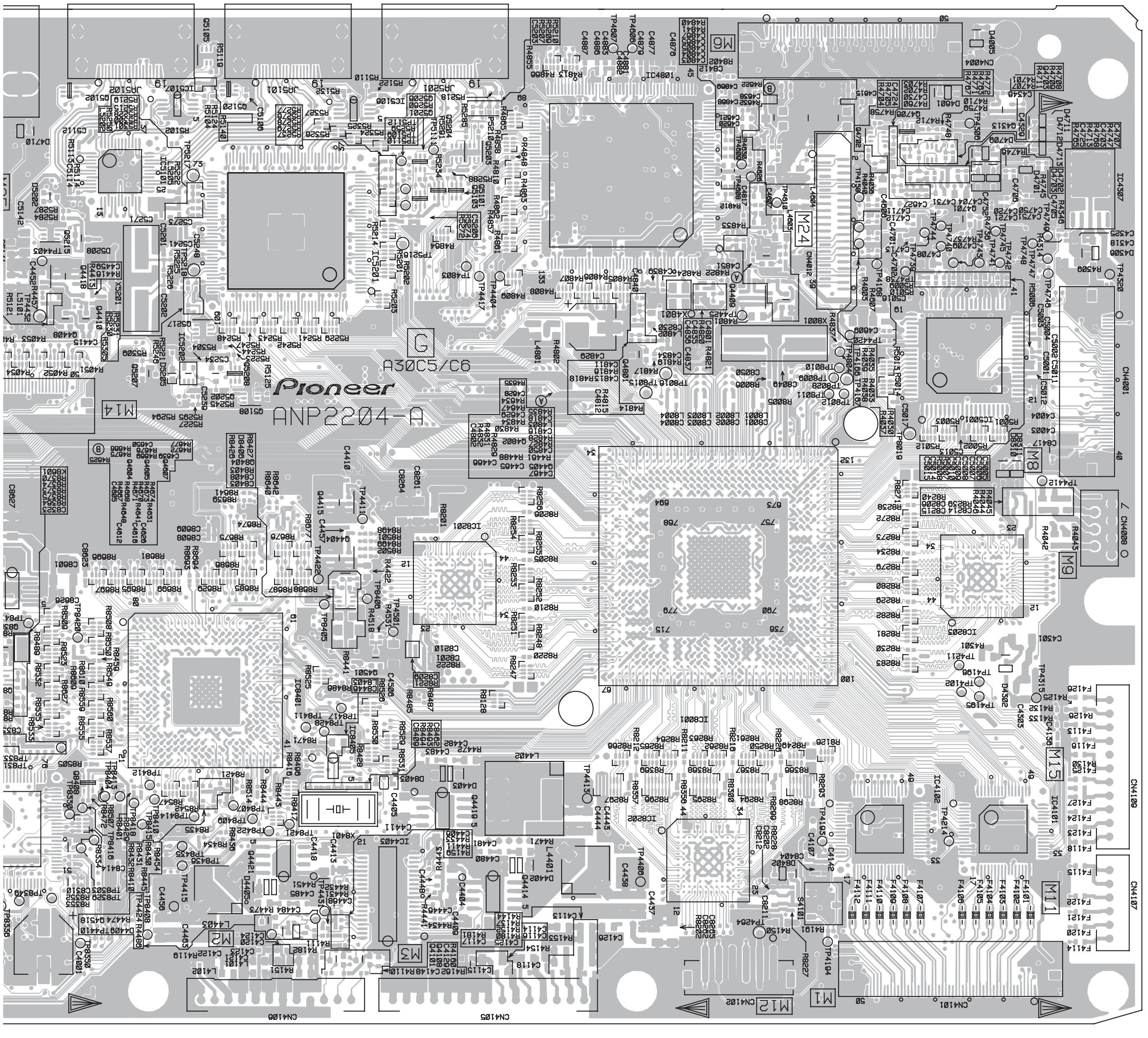
M14
M22
M13
M5
M4
M21
M23

**SIDE A**


Pioneer
ANP2204-A
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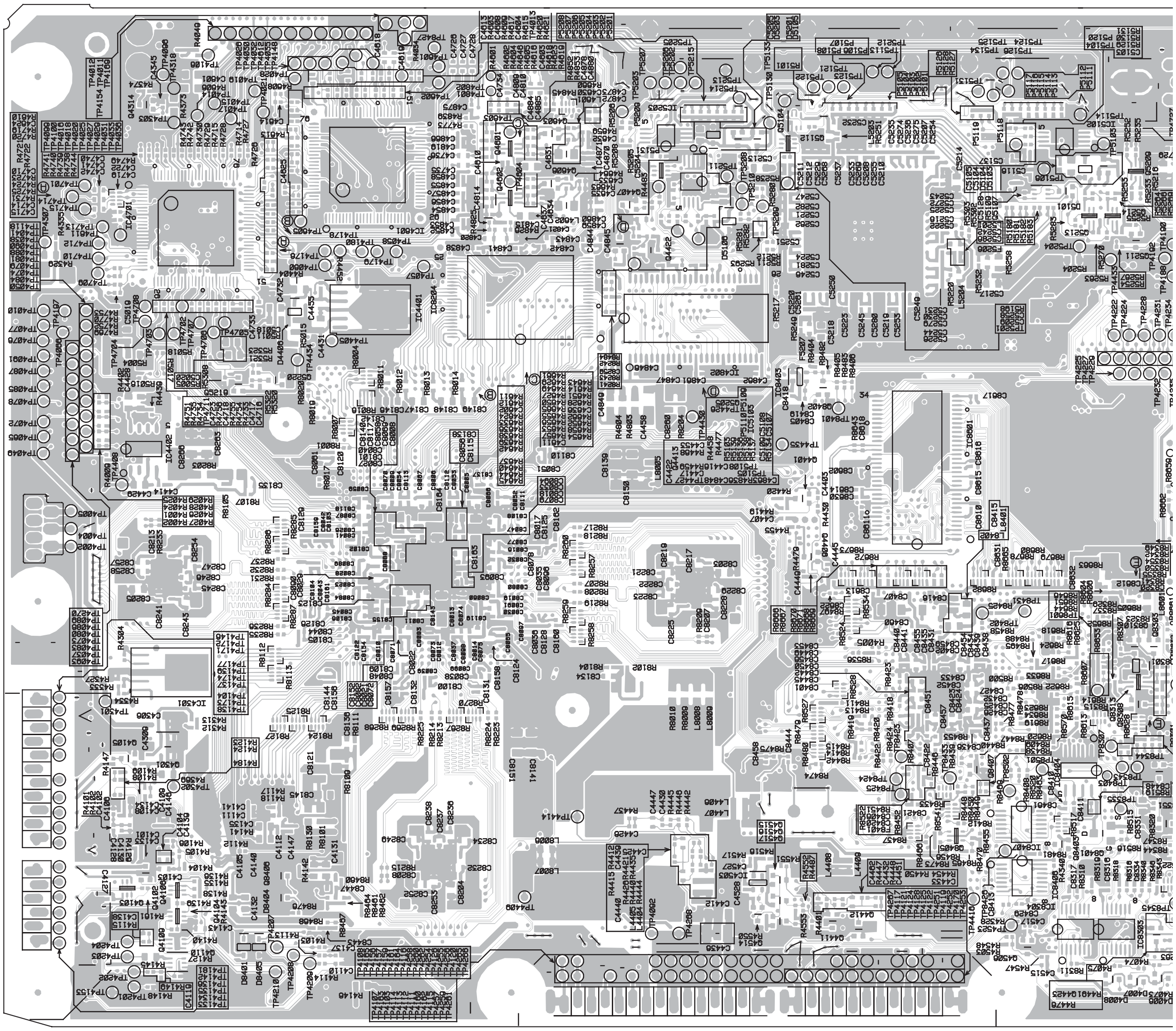
M8
M9
M11
M12
M14
M15
M24
CN4101
CN4102
CN4105
CN4106
CN4107
CN4108
CN4109
CN4001
CN4004

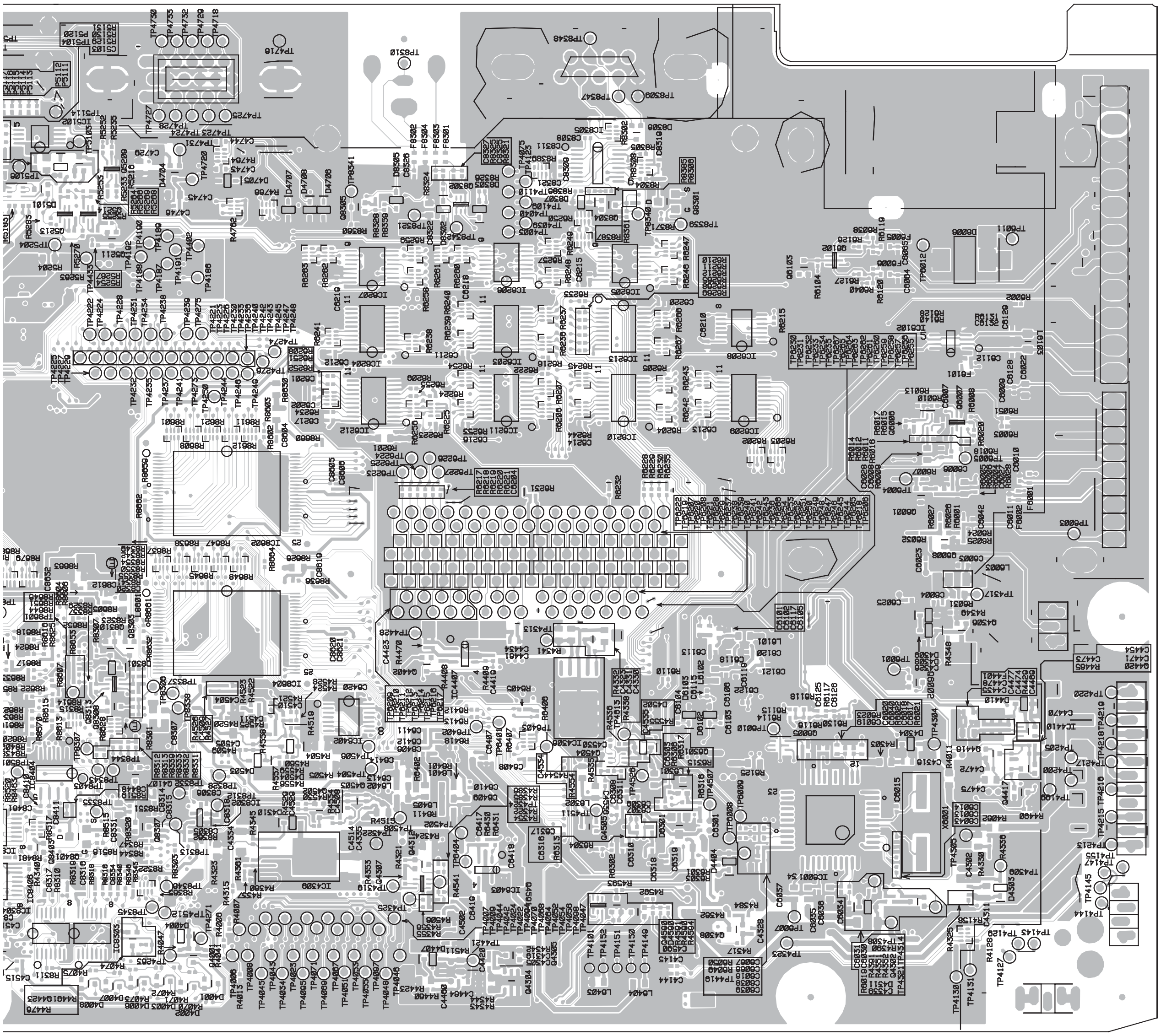
(ANP2204-A)

# MAIN ASSY

**SIDE B**



**SIDE B**

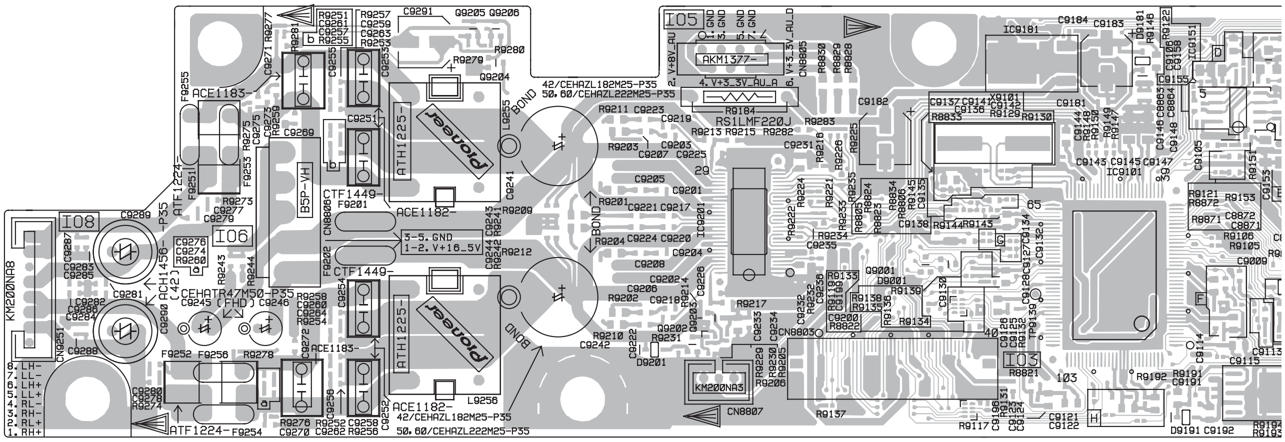


(ANP2204-A)

## 10.2 TANSHI ASSY

### TANSHI ASSY

**SIDE A**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I03
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KM200NA3
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ACE1182-
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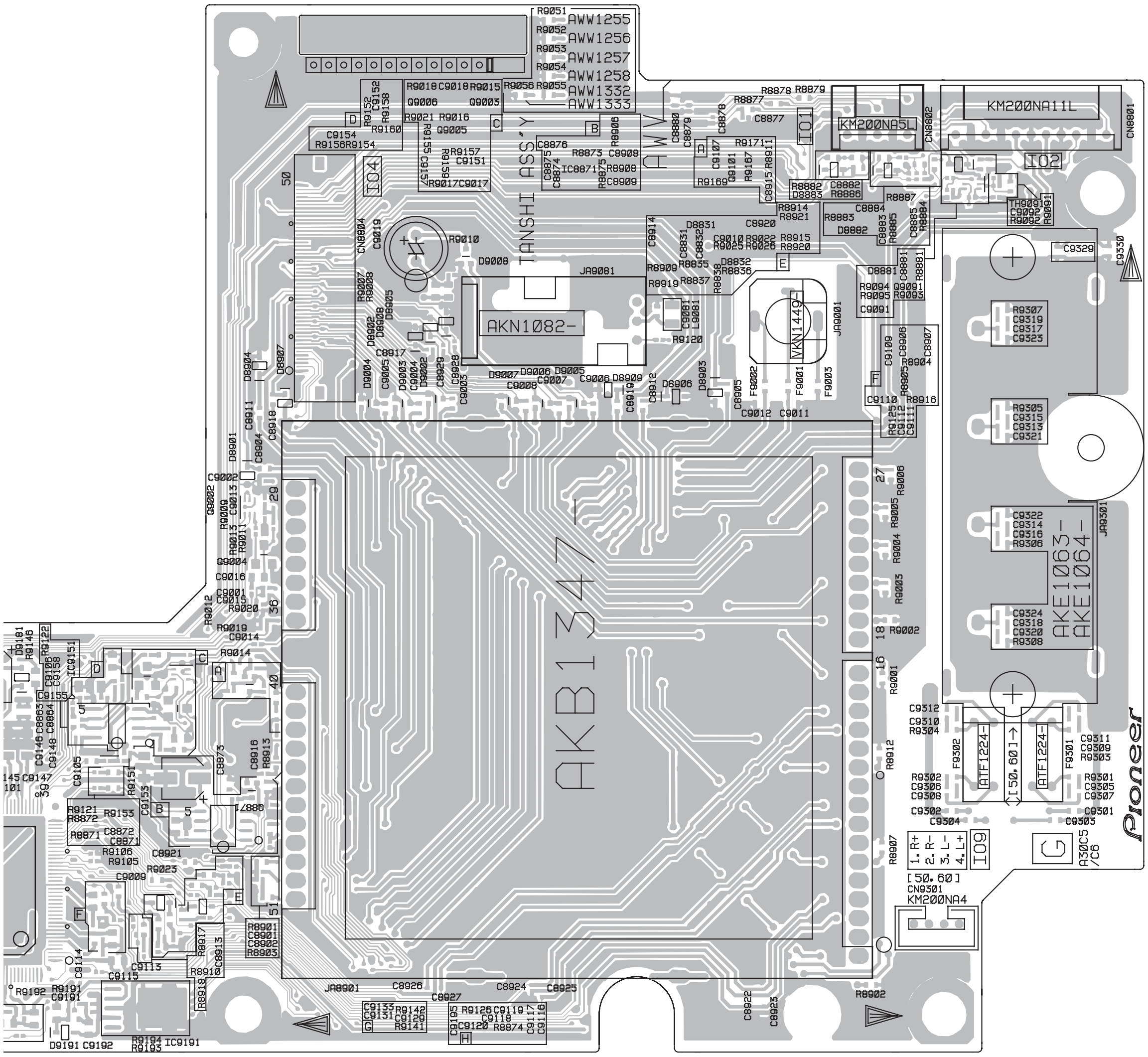
CTF1449-
ATF1224-
ACH1456-
CEHATR47M50-P35
B5P-VH
IC9101
IC9181
IC9151
IC9201
CN8805
CN8806
CN8807
CN8803
42/CEHAZL182M25-P35
50,60/CEHAZL222M25-P35
3-5. GND
1-2. V+16_5V
BOND
Pioneer
8. LH-
7. LL-
6. LH+
5. LL+
4. RL-
3. RH-
2. RL+
1. RH+

**SIDE A**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KM200NA11L
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I02
I04
AKN1082-
VKN1449
AKB1347-
AKE1063-
AKE1064-
ATF1224-
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2.R-
3.L-
4.L+
I09
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/C6
Pioneer
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CN8802
CN8804
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JA9301
JA8901
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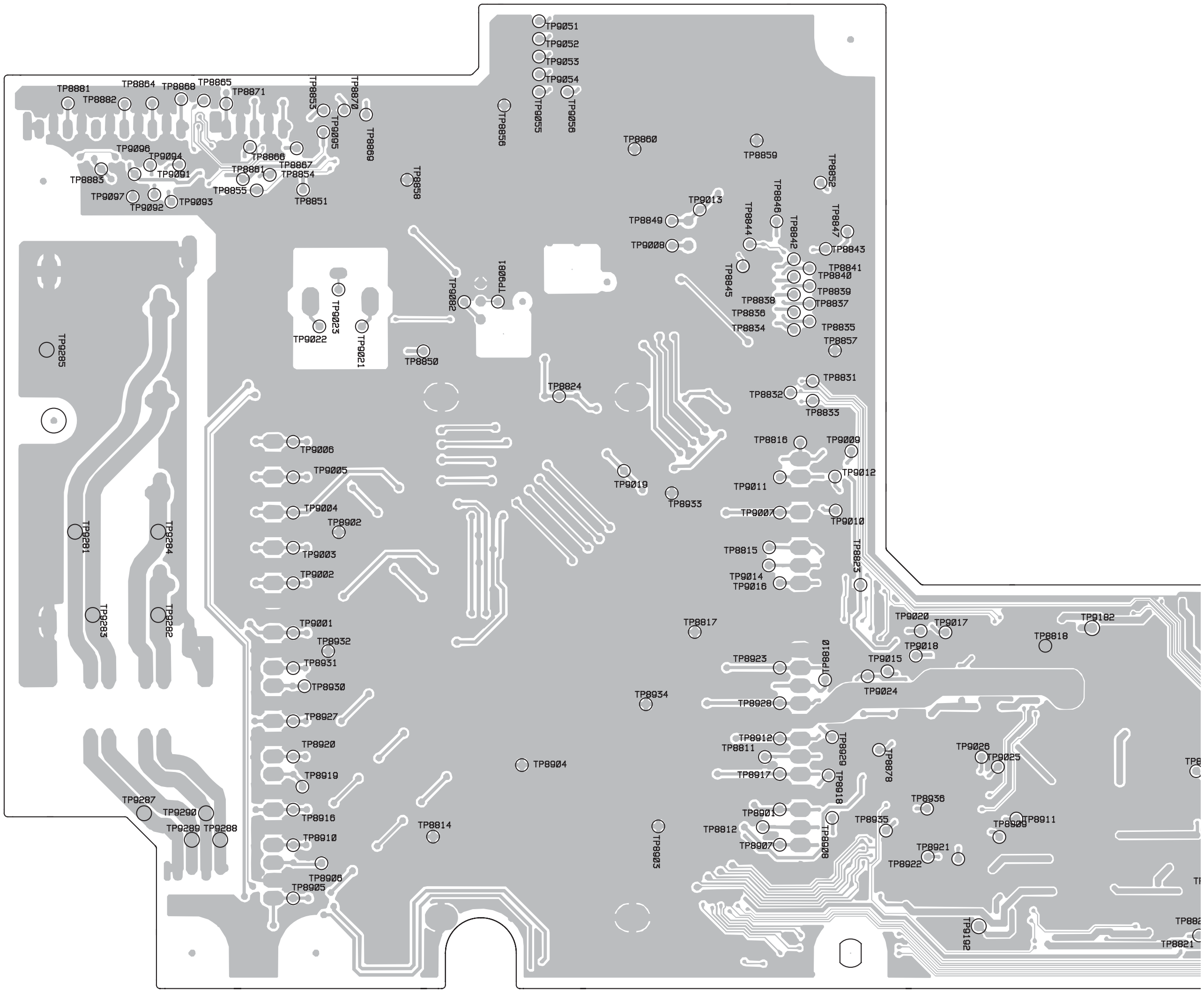
IC9191
IC8871

(ANP2201-A)

# TANSHI ASSY

## SIDE B



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TP9005
TP9012
TP9011
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TP9004
TP9007
TP9010
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TP9284
TP9003
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TP9002
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TP9016
TP8823
TP9283
TP9282
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TP9018
TP8931
TP8923
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TP9024
TP8934
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TP8811
TP8829
TP8920
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TP9290
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TP8936
TP8901
TP8935
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TP8911
TP9289
TP9288
TP8910
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TP8921
TP8922
TP8906
TP8905
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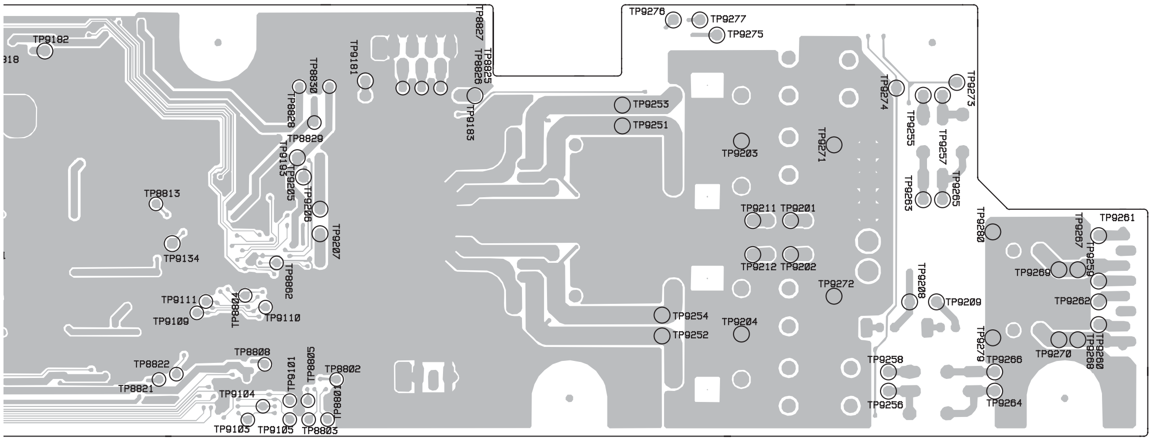
TP8821

**SIDE B**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TP9208
TP9209
TP9262
TP9254
TP9252
TP9204
TP9279
TP9270
TP9260
TP9268
TP9258
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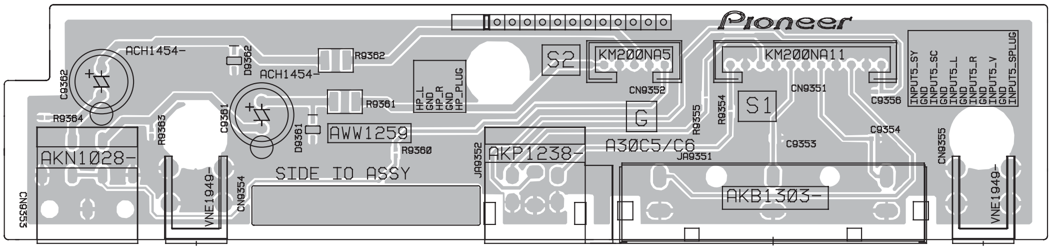
TP9256
TP9264

(ANP2201-A)

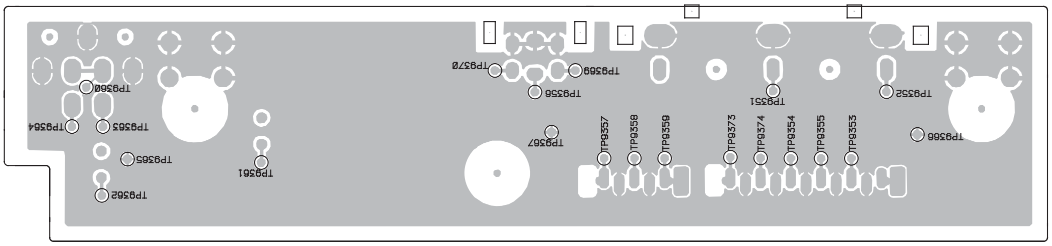
## 10.3 SIDE IO ASSY

## SIDE IO ASSY

**SIDE A**


Pioneer
ACH1454-
C9362
R9364
D9362
R9362
ACH1454-
C9361
R9363
D9361
R9361
HP_L
GND
HP_R
GND
HP_PLUG
AWW1259
R9360
AKN1028-
CN9353
VNE1949-
CN9354
SIDE IO ASSY
JA9352
AKP1238-
S2
KM200NA5
CN9352
G
A30C5/C6
JA9351
R9355
R9354
S1
KM200NA11
CN9351
C9356
C9353
C9354
AKB1303-
INPUT5_SY
GND
INPUT5_SC
GND
INPUT5_L
GND
INPUT5_R
GND
INPUT5_V
GND
INPUT5_SPLUG
CN9355
VNE1949-

**SIDE B**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TP9364
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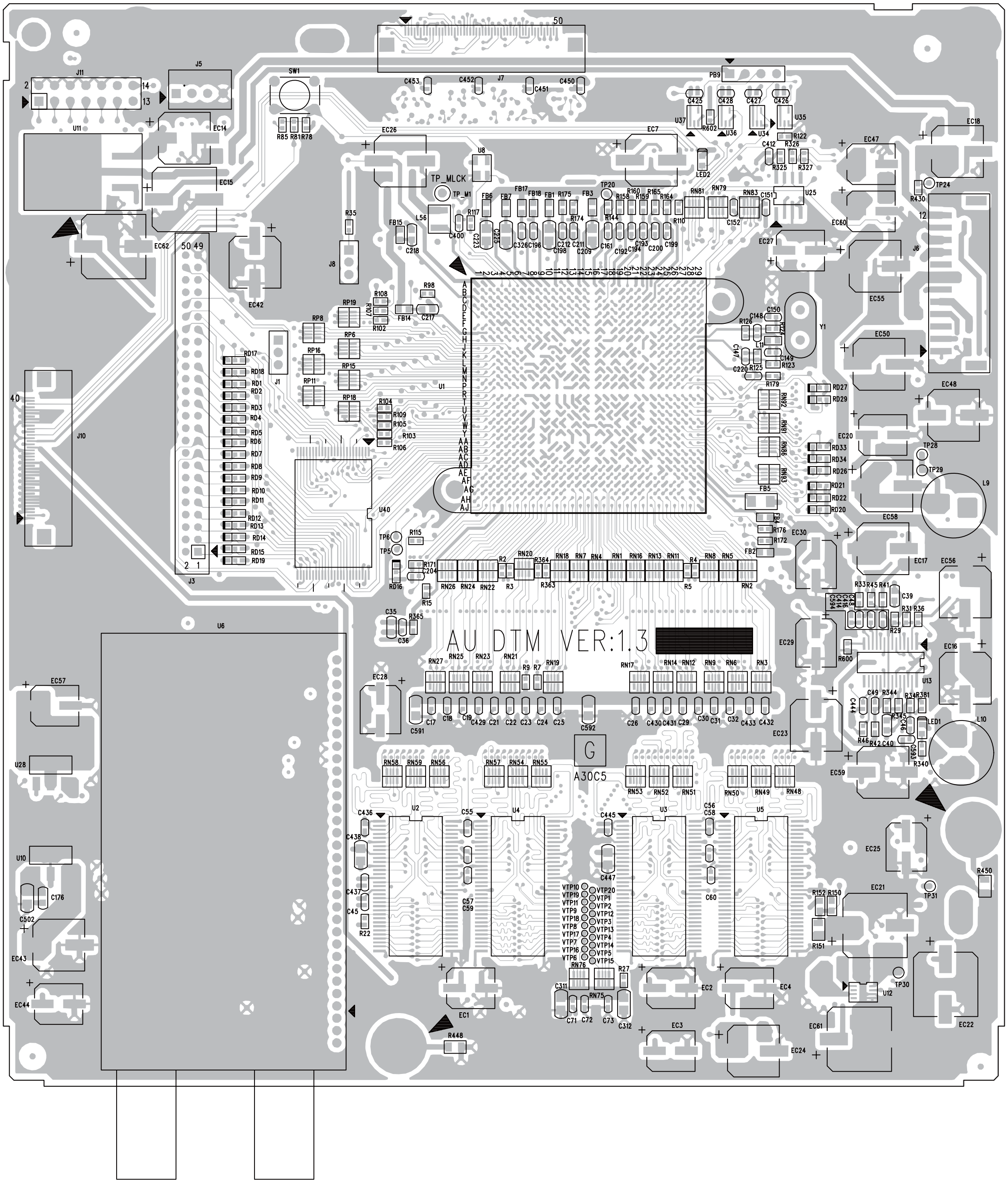
TP9362
TP9361
TP9370
TP9369
TP9356
TP9367
TP9357
TP9358
TP9359
TP9373
TP9374
TP9354
TP9355
TP9353
TP9351
TP9352
TP9366

(ANP2201-A)

## 10.4 DTV TUNER BOARD

## DTV TUNER BOARD

**SIDE A**


50
J11
2
14
13
J5
SW1
R85 R81 R78
U11
EC14
EC15
EC62
J7
C453 C452 C451 C450
PB9
C425 C428 C427 C426
U37 R602 U36 U34 U35
R122 C412 R326 R325 R327
EC26
EC7
U8
LED2
TP_MLCK
TP_M1
TP20
EC47
EC18
R430 TP24
FB6 FB7 FB17 FB18 FB1 R175 FB3 R158 R160 R159 R165 R164 RN81 RN79 RN83 C151 U25
R117 L56 FB15 R35 C400 C223 C225 C326 C196 C212 C211 C198 C209 C161 R174 R144 C192 C194 C193 C200 C199 R110 C152
C218
EC60
EC27
J6
12
50 49
EC42
J8
R108 R98
RP19 R107 R102 FB14 C217
RP8 RP6 RP16 RP15 RP11 RP18
R126 C148 C150 Y1
C147 C220 R125 C149 R123
EC55 EC50
RD17 RD18 RD1 RD2 RD3 RD4 RD5 RD6 RD7 RD8 RD9 RD10 RD11 RD12 RD13 RD14 RD15 RD19
J1
U1
R104 R109 R105 R103 R106
R179 RN92 RN91 RN86 RN93 FB5
RD27 RD29 EC48 EC20 RD33 RD34 RD26 RD21 RD22 RD20
TP28 TP29 L9
40
J10
U40
TP6 R115 TP5
R176 R172 FB2 EC30 EC58 EC17 EC56
J3
2 1
RD16 R171 C204 R15
RN20 R2 R364 RN18 RN7 RN4 RN1 RN16 RN13 RN11 R4 RN8 RN5
RN26 RN24 RN22 R3 R363 R5 RN2
R33 R45 R41 C39 R31 R36 R29
C35 R365 C36
U6
AU DTM VER:1.3
EC29 R600 EC16
RN27 RN25 RN23 RN21 R9 R7 RN19 RN17 RN14 RN12 RN9 RN6 RN3
U13
EC28
C49 R344 R34 R381
C17 C18 C19 C429 C21 C22 C23 C24 C25 C592 C26 C430 C431 C29 C30 C31 C32 C433 C432
C591
R345 LED1 L10
EC23
R46 R42 C40 C593 R340
EC57
U28
G
A30C5
RN58 RN59 RN56 RN57 RN54 RN55 RN53 RN52 RN51 RN50 RN49 RN48
EC59
C436 U2 C55 U4 C445 U3 C56 C58 U5
C438
C447
EC25
U10
C176
C437 C45 R22 C57 C59
VTP10 VTP19 VTP11 VTP9 VTP18 VTP8 VTP17 VTP7 VTP16 VTP6
VTP20 VTP1 VTP2 VTP12 VTP3 VTP13 VTP4 VTP14 VTP5 VTP15
C60
R152 R150 EC21 TP31 R450
C502
EC43
R151
RN76 R27
EC1 C311 RN75 C71 C72 C73 C312
EC2 EC4
TP30 U12
EC44
EC22
R448
EC3 EC61 EC24

A

**SIDE B**

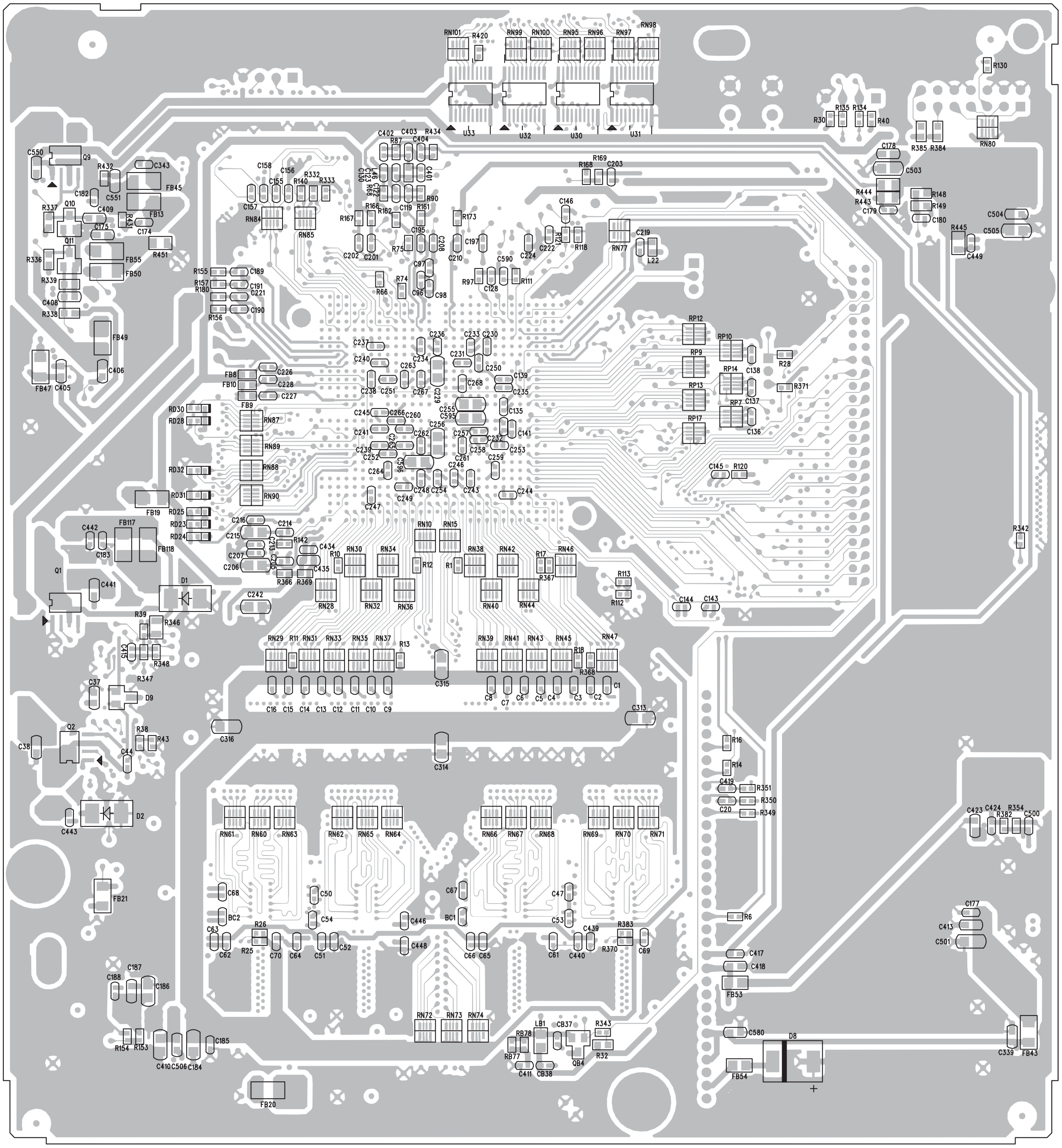
B

C

D

E

F


RN101
R420
RN99
RN100
RN95
RN96
RN97
RN98
R130
U33
U32
U30
U31
R30
R135
R134
R40
R385
R384
RN80
C402
C403
R434
R87
C404
C401
C158
C156
R332
R333
C155
R140
R166
R162
R161
R90
C119
C157
RN84
RN85
R167
R173
C195
C146
R169
R168
C203
C178
C503
R444
R443
C179
R148
R149
C180
C504
C505
R445
C449
C550
Q9
R432
C343
FB45
C551
C182
R337
Q10
C409
FB13
C175
C174
Q11
R451
R336
FB55
FB50
R339
C408
R338
FB49
FB47
C405
C406
R155
R157
R180
R156
C189
C191
C221
C190
C202
C201
R75
C208
C210
C197
C590
C224
C222
R121
R118
RN77
C219
L22
R74
R66
C97
C96
C98
R97
C128
R111
RP12
RP10
RP9
RP14
RP13
RP7
RP17
R28
R371
C138
C137
C136
C237
C240
C236
C234
C233
C230
C231
C250
C263
C238
C251
C267
C229
C268
C139
C235
FB8
FB10
FB9
C226
C228
C227
RD30
RD28
RN87
RN89
RN88
RN90
RD32
RD31
RD25
RD23
RD24
FB19
C245
C266
C260
C255
C595
C135
C256
C241
C262
C257
C232
C141
C239
C252
C258
C253
C261
C259
C264
C246
C248
C254
C243
C244
C249
C247
C145
R120
R342
C442
FB117
C183
FB118
C216
C214
C215
R142
C434
C207
C206
R10
RN30
RN34
RN10
RN15
RN38
RN42
R17
RN46
R12
R1
R367
C435
R366
R369
RN28
RN32
RN36
RN40
RN44
R113
R112
C144
C143
Q1
C441
D1
C242
R39
R346
C415
R348
RN29
R11
RN31
RN33
RN35
RN37
R13
RN39
RN41
RN43
RN45
R18
RN47
R368
C37
R347
D9
C315
C16
C15
C14
C13
C12
C11
C10
C9
C8
C7
C6
C5
C4
C3
C2
C1
C313
Q2
C38
R38
R43
C316
C44
C314
R16
R14
C419
R351
R350
C20
R349
D2
C443
RN61
RN60
RN63
RN62
RN65
RN64
RN66
RN67
RN68
RN69
RN70
RN71
C423
C424
R354
R382
C500
FB21
C68
C50
C67
C47
BC2
C54
C446
BC1
C53
R6
C177
C413
C501
C63
R26
C439
R383
C62
R25
C70
C64
C51
C52
C448
C66
C65
C61
C440
R370
C69
C417
C418
C187
C188
C186
FB53
RN72
RN73
RN74
LB1
CB37
R343
C580
D8
RB78
RB77
QB4
R32
C339
FB43
C185
R154
R153
C410
C506
C184
C411
CB38
FB54
+
FB20

# 11. PCB PARTS LIST

*NOTES:*
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

*Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).*

*560 Ω → 56 x 10$^{1}$ → 561 ........................ RD1/4PU$\boxed{5}\boxed{6}\boxed{1}$J*
*47k Ω → 47 x 10$^{3}$ → 473 ........................ RD1/4PU$\boxed{4}\boxed{7}\boxed{3}$J*
*0.5 Ω → R50 ........................ RN2H$\boxed{R}\boxed{5}\boxed{0}$K*
*1 Ω → 1R0 ........................ RS1P$\boxed{1}\boxed{R}\boxed{0}$K*

*Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).*

*5.62k Ω → 562 x 10$^{1}$ → 5621 ........................ RN1/4PC$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F*

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | | **LIST OF ASSEMBLIES** | |
| ⚠ | 1.. | MAIN ASSY (508XG type) | AWV2465 |
| ⚠ | 1.. | MAIN ASSY (508XDA type) | AWV2465 |
| ⚠ | 1.. | MAIN ASSY (508XC type) | AWV2466 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| NSP | 1.. | FUKUGO ASSY (508XG type) | AWV2491 |
| NSP | 1.. | FUKUGO ASSY (508XDA type) | AWV2489 |
| NSP | 1.. | FUKUGO ASSY (508XC type) | AWV2491 |
| | 2.. | TANSHI ASSY(508XG type) | AWW1258 |
| | 2.. | TANSHI ASSY(508XDA type) | AWW1256 |
| | 2.. | TANSHI ASSY(508XC type) | AWW1258 |
| | 2.. | SIDE IO ASSY | AWW1259 |
| | 2.. | 50XGA LED ASSY | AWW1280 |
| | 2.. | 50LED&RLS&IR ASSY | AWW1281 |
| | 2.. | SIDE KEY ASSY | AWW1286 |

## CONTRAST OF PCB ASSEMBLIES

### MAIN ASSY

AWV2465 and AWV2466 are constructed the same except for the following:

| Mark | Symbol and Description | AWV2465 | AWV2466 | Remarks |
|---|---|---|---|---|
| | R4020 | RS1/16SS0R0J | Not used | |
| | R4021 | Not used | RS1/16SS0R0J | |
| | R8313 | RS1/16SS103J | Not used | |
| | R8330 | Not used | RS1/16SS103J | |

### TANSHI ASSY

AWW1258 and AWW1256 are constructed the same except for the following:

| Mark | Symbol and Description | AWW1258 | AWW1256 | Remarks |
|---|---|---|---|---|
| | L9081 Chip Coil | Not used | BTH1103 | |
| | JA9081 Vert Opt.link Out | Not used | AKN1082 | |
| | R8891, R9052 | Not used | RS1/16S0R0J | |
| | R8894, R9054 | RS1/16S0R0J | Not used | |
| | C9081 | Not used | CKSRYB105K10 | |

# PCB PARTS LIST

## Unit Name: MAIN ASSY (508XG type)

### SEMICONDUCTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | IC 8204 |  | AGC1051 |
|  | IC 8301 |  | AGC1037 |
|  | IC 8602 |  | AGC1042 |

### MISCELLANEOUS

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | 3101 | GROUND PLATE | ANG3118 |

### RESISTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | All Resistors |  | RS1/16SS###J |

## Block Name: BOARD IF BLOCK(XG)

### SEMICONDUCTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | Q 4001 |  | 2SA1602A |
|  | D 4001,4003,4008 |  | 1SS301 |
|  | D 4004 |  | 1SS352 |
|  | D 4005 |  | UDZS4R7(B) |

### MISCELLANEOUS

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | L 4001,4002 | CHIP COIL | BTH1118 |
|  | CN 4001 | 40P CONNECTER | AKM1348 |
|  | CN 4002 | 50P CONNECTER PBF | AKM1353 |
|  | CN 4004,4007 | 50P CONNECTER | AKM1349 |
|  | CN 4008 | CONNECTOR 7P | AKP1320 |
|  | CN 4012 | 40P CONNECTER PBF | AKM1354 |
|  | CN 4014 | PLUG(12P) | KM200NA12 |

### RESISTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | R 4014,4015,4042,4044 |  | RS1/10S0R0J |
|  | R 4045 |  | RS1/10S0R0J |
|  | R 4051-4061 |  | RAB4CQ220J |
|  | Other Resistors |  | RS1/16SS###J |

### CAPACITORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | C 4001 |  | ACH1421 |

## Block Name: BOARD IF 1B OCK(XG)

### SEMICONDUCTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | IC 4101 |  | BU8254KVT |
|  | Q 4101,4105,4107,4108 |  | RT1N241M |
|  | Q 4103 |  | RN2902 |
|  | Q 4104 |  | RN1902 |
|  | Q 4106 |  | HN1A01FU |

### MISCELLANEOUS

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | L 4101,4102 | CHIP BEEDS FILTER | BTX1039 |
| ⚠ | F 4113-4116,4118 | INDUCTOR | CTF1557 |
| ⚠ | F 4120-4124,4126,4127 | INDUCTOR | CTF1557 |
|  | CN 4101 | 50P CONNECTER | AKM1349 |
|  | CN 4103 | PLUG(3P) | KM200NA3 |
|  | CN 4105 | PLUG(15P) | KM200NA15 |
|  | CN 4106 | PLUG(12P) | KM200NA12 |
|  | CN 4107 | PLUG(6P) | KM200NA6 |
|  | CN 4109 | PLUG(11P) | KM200NA11 |
|  | CN 4110 | CONNECTOR | AKM1276 |

### RESISTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | R 4120-4122,4130,4132 |  | RS1/16S0R0J |
|  | R 4125,4126 |  | RS1/16S102J |
|  | R 4133 |  | RS1/16S0R0J |
|  | R 4137,4141-4145 |  | RS1/10S0R0J |
|  | R 4150-4154,4180-4182 |  | RS1/10S0R0J |
|  | R 4158 |  | RAB4CQ101J |
|  | Other Resistors |  | RS1/16SS###J |

### CAPACITORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | C 4101,4102,4104,4108 |  | CKSSYB104K10 |
|  | C 4109,4127 |  | CKSSYB104K10 |
|  | C 4121,4131,4132,4135 |  | DCH1201 |
|  | C 4122,4129 |  | CKSRYB102K50 |
|  | C 4133,4134,4136,4139 |  | CCSSCH221J50 |
|  | C 4146 |  | CCSSCH221J50 |

## Block Name: POWER 0 BLOCK(XG)

### SEMICONDUCTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | IC 4301,4309,4310 |  | PQ200WNA1ZPH |
|  | IC 4305,4307 |  | NJM2846DL3-05 |
|  | Q 4302,4305 |  | RT1N241M |
|  | Q 4304 |  | RTQ040P02 |
|  | Q 4306 |  | 2SC4081 |
|  | Q 4307 |  | HN1C01FU |
|  | Q 4312 |  | 2SA1602A |
|  | D 4302,4304,4306,4310 |  | 1SS352 |
|  | D 4308 |  | UDZS24(B) |
|  | D 4309 |  | UDZS8R2(B) |
|  | D 4311 |  | 1SS352 |

### RESISTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | R 4301,4303,4309,4310 |  | RS1/10S0R0J |
|  | R 4322 |  | RS1/16SS5602D |
|  | R 4323,4324,4369,4373 |  | RS1/10S0R0J |
|  | R 4327,4391 |  | RS1/16SS4701F |
|  | R 4333 |  | RS1/16SS1501F |
|  | R 4337,4352 |  | RS1/16SS1001F |
|  | R 4351 |  | RS1/16SS1801F |
|  | R 4353 |  | RS1/16SS6802D |
|  | R 4354,4355 |  | RS1/16SS1203D |
|  | R 4360,4361 |  | RS1/16SS1202F |
|  | Other Resistors |  | RS1/16SS###J |

### CAPACITORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | C 4301,4303,4334,4335 |  | DCH1165 |
|  | C 4312,4318 |  | DCH1201 |
|  | C 4316,4325 |  | CKSRYB105K10 |
|  | C 4319 |  | CKSSYB104K10 |
|  | C 4326 |  | CKSRYF104Z50 |
|  | C 4339,4340 |  | DCH1165 |

## Block Name: POWER 0 BLOCK(XG)

### SEMICONDUCTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
|  | IC 4401 |  | NJM2846DL3-33 |
|  | IC 4403 |  | BD8602FV |
|  | IC 4404 |  | NJM2846DL3-18 |
|  | Q 4401,4405,4406,4408 |  | RT1N241M |
|  | Q 4404,4415 |  | RTQ040P02 |
|  | Q 4407 |  | 2SC4081 |
|  | Q 4409 |  | UPA1917TE |
|  | Q 4410,4412,4413 |  | RT1P241M |
|  | Q 4411 |  | RT1N241M |
|  | Q 4414,4419,4421 |  | SP8M4 |
|  | Q 4418 |  | RTQ045N03 |

| Mark | No. Description | Part No. |
|---|---|---|
| | Q 4422 | MCH3406 |
| | D 4401,4406,4409 | 1SS352 |
| | D 4402,4403,4405 | RB060M-30 |

## MISCELLANEOUS

| Mark | No. Description | Part No. |
|---|---|---|
| | L 4401,4403INDUCTOR | ATH1235 |
| | L 4402 INDUCTOR | BTH1113 |
| | L 4404-4409CHIP BEEDS FILTER | BTX1039 |

## RESISTORS

| Mark | No. Description | Part No. |
|---|---|---|
| | R 4404,4406 | RS1/10S0R0J |
| | R 4412 | RS1/16SS1203D |
| | R 4415,4433,4435,4437 | RS1/16SS3302D |
| | R 4431 | RS1/16SS6802D |
| | R 4440 | RS1/16SS3902D |
| | R 4441 | RS1/16SS2702D |
| | R 4442,4444 | RS1/16SS3302D |
| | R 4447 | RS1/16SS5602D |
| | R 4450 | RS1/16SS7502D |
| | R 4454 | RS1/16SS1003D |
| | Other Resistors | RS1/16SS###J |

## CAPACITORS

| Mark | No. Description | Part No. |
|---|---|---|
| | C 4401,4455 | CKSRYB105K10 |
| | C 4402,4431 | DCH1201 |
| | C 4403,4415,4421,4422 | CCSSCH101J50 |
| | C 4404,4405,4409 | DCH1165 |
| | C 4406,4407,4410,4417 | CKSSYB104K10 |
| | C 4411-4413,4418 | DCH1165 |
| | C 4416,4425,4432 | CKSSYB102K50 |
| | C 4426 | CCSSCH181J50 |
| | C 4430 | CKSSYB562K25 |
| | C 4433 | CCSSCH390J50 |
| | C 4436 | CCG1230 |
| | C 4437,4438,4443,4444 | BCG1059 |
| | C 4439 | CCSRCH470J50 |
| | C 4445,4467 | CCSSCH101J50 |
| | C 4446,4448,4462 | CKSRYB682K50 |
| | C 4449,4457,4465,4466 | CKSSYB104K10 |
| | C 4452,4459 | CKSRYB104K16 |
| | C 4453 | CKSRYB474K10 |
| | C 4456,4463 | BCG1059 |
| | C 4468 | CKSSYB104K10 |

### Block Name: POWER 2 BLOCK(XG)

## SEMICONDUCTORS

| Mark | No. Description | Part No. |
|---|---|---|
| | IC 4501 | LTC3407EMSE-2 |
| | IC 4503 | PST3628UR |
| | Q 4501,4506,4515-4517 | RT1N241M |
| | Q 4505 | MCH3406 |
| | Q 4508 | 2SC4081 |
| | Q 4511 | RTQ040P02 |
| | Q 4512 | RSS090P03 |
| | Q 4514 | RT1P241M |
| | Q 4590 | RT1N241M |
| | Q 4591 | RN1902 |
| | D 4503,4504 | RB551V-30 |
| | D 4590 | 1SS301 |

## MISCELLANEOUS

| Mark | No. Description | Part No. |
|---|---|---|
| | L 4501,4502INDUCTOR | BTH1110 |
| | L 4503 CHIP BEEDS FILTER | BTX1039 |

## RESISTORS

| Mark | No. Description | Part No. |
|---|---|---|
| | R 4502,4504,4505,4510 | RS1/10S0R0J |
| | R 4515 | RS1/10S0R0J |
| | R 4516 | RS1/16SS2702D |
| | R 4517 | RS1/16SS5602D |
| | R 4521 | RS1/16SS2003D |
| | R 4522 | RS1/16SS6202D |
| | R 4526 | RS1/16SS1503D |
| | R 4527 | RS1/16SS1003D |
| | Other Resistors | RS1/16SS###J |

## CAPACITORS

| Mark | No. Description | Part No. |
|---|---|---|
| | C 4503,4507 | BCG1059 |
| | C 4504,4511 | CKSRYB224K16 |
| | C 4506 | ACG1128 |
| | C 4509,4510 | CCSSCH470J50 |
| | C 4512,4513 | DCH1201 |
| | C 4515,4516,4520,4521 | CKSSYB104K10 |
| | C 4522,4530,4535 | CCSSCH101J50 |
| | C 4527,4528,4534 | CKSSYB103K16 |
| | C 4536 | CKSSYB104K10 |

### Block Name: AV SW BLOCK(XG)

## SEMICONDUCTORS

| Mark | No. Description | Part No. |
|---|---|---|
| | IC 4601 | R2S11006FT |
| | Q 4601,4602 | HN1C01FU |
| | Q 4603,4606 | 2SC4081 |
| | D 4601 | UDZS6R8(B) |

## MISCELLANEOUS

| Mark | No. Description | Part No. |
|---|---|---|
| | L 4601,4602INDUCTOR | LCYA220J2520 |

## RESISTORS

| Mark | No. Description | Part No. |
|---|---|---|
| | R 4606,4607 | RS1/10S0R0J |
| | Other Resistors | RS1/16SS###J |

## CAPACITORS

| Mark | No. Description | Part No. |
|---|---|---|
| | C 4601,4606,4636,4637 | DCH1201 |
| | C 4602-4605,4607,4610 | CKSSYB104K10 |
| | C 4608,4613,4615 | CKSRYB105K10 |
| | C 4609 | DCH1165 |
| | C 4611 | CKSSYB104K10 |
| | C 4618-4621,4627-4629 | CKSRYB105K10 |
| | C 4630,4633 | CCSSCH7R0D50 |
| | C 4631,4634 | CCSSCH390J50 |
| | C 4632,4635 | CCSSCH470J50 |

### Block Name: RGB SW BLOCK(XG)

## SEMICONDUCTORS

| Mark | No. Description | Part No. |
|---|---|---|
| | IC 4701 | R2S11001FT |
| | IC 4702 | TC74VHC08FTS1 |
| | IC 4703 | BR24L01AFJ-W |
| | Q 4701 | 2SA1602A |
| | Q 4704 | RT1N241M |
| | D 4704 | 1SS301 |
| | D 4709 | UDZS6R8(B) |

## MISCELLANEOUS

| Mark | No. Description | Part No. |
|---|---|---|
| | CN 4701 15P D-SUB SOCKET | AKP1214 |

## RESISTORS

| Mark | No. Description | Part No. |
|---|---|---|
| | R 4716-4718 | RS1/16S75R0F |
| | R 4748 | RS1/10S0R0J |
| | R 4749,4761,4766 | RAB4CQ101J |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| R | 4762 | | RAB4CQ473J |
| R | 4764 | | RAB4CQ222J |
| Other Resistors | | | RS1/16SS###J |

## CAPACITORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| C | 4701-4703,4709,4729 | | CKSSYB104K10 |
| C | 4704,4708,4745 | | DCH1201 |
| C | 4710-4723 | | CKSSYB103K16 |
| C | 4726-4728,4740-4742 | | CKSRYB105K10 |
| C | 4732,4733 | | CCSRCH680J50 |
| C | 4748 | | CKSSYB104K10 |
| C | 4750-4752 | | CCSSCH221J50 |

**Block Name: VDEC BLOCK(XG)**

## SEMICONDUCTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| IC | 4801 | | CM0048BF |
| IC | 4802 | | HY57V161610FTP-7 |
| Q | 4801,4802 | | 2SA1602A |

## MISCELLANEOUS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| L | 4801 | CHIP BEEDS FILTER | BTX1042 |
| L | 4802,4803 | COIL | LCYC6R8K2125 |
| X | 4801 | CRYSTAL(28.63636MHZ) | ASS1214 |

## RESISTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| R | 4801-4804 | | RS1/10S0R0J |
| R | 4805-4809,4857 | | RAB4CQ470J |
| R | 4810,4813,4845,4858 | | RAB4CQ101J |
| R | 4819,4830 | | RS1/16SS1500F |
| R | 4820,4831 | | RS1/16SS2201F |
| R | 4821,4832 | | RS1/16SS1101F |
| R | 4822,4826,4833 | | RS1/16SS2701F |
| R | 4825 | | RS1/16SS1001F |
| R | 4861-4863 | | RAB4CQ470J |
| R | 4864-4866 | | RAB4CQ101J |
| Other Resistors | | | RS1/16SS###J |

## CAPACITORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| C | 4801,4802,4804,4805 | | CKSRYB105K10 |
| C | 4803,4811,4817 | | CKSSYB103K16 |
| C | 4809,4810 | | CKSRYB105K10 |
| C | 4812,4816 | | CCSSCH330J50 |
| C | 4813,4818 | | CCSSCH680J50 |
| C | 4814,4815 | | CKSSYB102K50 |
| C | 4819,4834-4848 | | CKSSYB104K10 |
| C | 4820,4821 | | CCSRCH300J50 |
| C | 4829 | | CEHVKW101M6R3 |
| C | 4849 | | DCH1201 |
| C | 4850-4863,4865-4873 | | CKSSYB104K10 |
| C | 4875-4887 | | CKSSYB104K10 |

**Block Name: ADC BLOCK(XG)**

## SEMICONDUCTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| IC | 5001 | | AD9985KSTZ-110 |

## RESISTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| R | 5001-5003,5012-5014 | | RAB4CQ470J |
| R | 5004,5005,5011,5015 | | RS1/10S0R0J |
| R | 5006 | | RS1/16SS2701F |
| Other Resistors | | | RS1/16SS###J |

## CAPACITORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| C | 5001 | | CKSSYB823K10 |
| C | 5002 | | CKSSYB822K16 |
| C | 5003-5005,5007,5009 | | CKSSYB104K10 |
| C | 5006,5008,5010 | | CKSSYB473K16 |
| C | 5011-5017 | | CKSSYB104K10 |
| C | 5018,5020 | | DCH1201 |

**Block Name: HDMI SW BLOCK(XG)**

## SEMICONDUCTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| IC | 5101 | | CXB1442R |
| IC | 5102,5103 | | BR24L02FV-W |
| IC | 5106,5107 | | PCA9517DP |
| Q | 5112,5120 | | RN1902 |
| D | 5101 | | 1SS301 |
| D | 5104,5106 | | UDZS6R8(B) |

## MISCELLANEOUS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| L | 5101 | CHIP SOLID INDUCTOR | QTL1013 |
| JA | 5101,5102 | HDMI CONNECTOR | AKP1318 |

## RESISTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| R | 5114 | | RS1/16SS4701F |
| Other Resistors | | | RS1/16SS###J |

## CAPACITORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| C | 5103,5105,5106,5108 | | CKSSYB104K10 |
| C | 5104,5107,5141 | | DCH1201 |
| C | 5109,5112,5114,5116 | | CKSSYB104K10 |
| C | 5128,5137 | | CKSSYB104K10 |
| C | 5142 | | BCG1059 |

**Block Name: HDMI BLOCK(XG)**

## SEMICONDUCTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| IC | 5201 | | SII9125CTU |
| IC | 5203 | | BR24L02FV-W |
| Q | 5201 | | SSM6N17FU |
| Q | 5202 | | 2SA1602A |
| Q | 5205,5209 | | RN1902 |
| Q | 5207 | | 2SC4081 |
| Q | 5208 | | HN1C01FU |
| Q | 5211 | | RT1N241M |
| D | 5203 | | UDZS6R8(B) |
| D | 5205 | | RB520S-30 |

## MISCELLANEOUS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| L | 5201-5205 | CHIP SOLID INDUCTOR | QTL1013 |
| F | 5206,5207 | CHIP FERRITE BEADS | ATF1211 |
| JA | 5201 | HDMI CONNECTOR | AKP1318 |
| X | 5201 | CRYSTAL RESONATOR | ASS1200 |

## RESISTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| R | 5201-5203,5214,5229 | | RAB4CQ680J |
| R | 5204,5216,5258 | | RS1/10S0R0J |
| R | 5237 | | RAB4CQ100J |
| R | 5241-5243,5247,5248 | | RAB4CQ680J |
| R | 5324-5327 | | ACN1275 |
| Other Resistors | | | RS1/16SS###J |

## CAPACITORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| C | 5201,5202 | | CCSSCH8R0D50 |
| C | 5203,5204,5222,5231 | | CKSSYB104K10 |
| C | 5205,5213,5214,5217 | | DCH1201 |
| C | 5207-5212,5216 | | CKSSYB102K50 |
| C | 5218 | | DCH1201 |

| Mark | No. Description | Part No. |
|---|---|---|
| | C 5219-5221,5223-5226 | CKSSYB102K50 |
| | C 5229,5233,5235-5237 | CKSSYB102K50 |
| | C 5230 | CKSSYB103K16 |
| | C 5232,5234,5253-5255 | CKSSYB104K10 |
| | C 5241-5251 | CKSSYB102K50 |
| | C 5258,5261,5262,5268 | CKSSYB104K10 |
| | C 5269,5271-5275 | CKSSYB104K10 |
| | C 5279-5282,5286 | CKSSYB104K10 |

## Block Name: TUNER BLOCK(XG)

### SEMICONDUCTORS

| | | |
|---|---|---|
| | Q 6001,6008 | 2SA1602A |
| | Q 6006 | HN1B04FU |
| | Q 6007 | HN1C01FU |

### MISCELLANEOUS

| | | |
|---|---|---|
| | L 6001,6002INDUCTOR | BTH1110 |
| | L 6003 CHIP COIL | BTH1119 |
| | L 6004 CHIP COIL | BTH1121 |
| | F 6001,6002,6005FERRITE CORE | VTF1080 |
| | F 6004 FERRITE CORE | VTF1091 |
| | F 6006 FERRITE CORE | VTF1080 |
| | F 6007,6008CHIP FERRITE BEADS | ATX1067 |
| ⚠ | U 6001 FRONTEND | AXF1180 |

### RESISTORS

| | | |
|---|---|---|
| | R 6031 | RS1/10S0R0J |
| | Other Resistors | RS1/16SS###J |

### CAPACITORS

| | | |
|---|---|---|
| | C 6003,6004 | CKSRYF104Z50 |
| | C 6008 | CKSRYB682K50 |
| | C 6009 | CKSSYB103K16 |
| | C 6010,6011,6064,6065 | CCSSCH100D50 |
| | C 6022,6024,6026-6028 | DCH1201 |
| | C 6023,6025 | CKSSYB104K10 |

## Block Name: VBI SLICER BLOCK(XG)

### SEMICONDUCTORS

| | | |
|---|---|---|
| | IC 6301 | TC90173FG |
| | D 6301 | HSM107S-E |

### MISCELLANEOUS

| | | |
|---|---|---|
| | L 6301,6302CHIP BEEDS FILTER | BTX1042 |

### RESISTORS

| | | |
|---|---|---|
| | R 6303 | RS1/10S0R0J |
| | Other Resistors | RS1/16SS###J |

### CAPACITORS

| | | |
|---|---|---|
| | C 6301 | CKSRYB474K10 |
| | C 6303 | CCSSCH680J50 |
| | C 6305 | DCH1201 |
| | C 6306-6319 | CKSSYB104K10 |

## Block Name: USB BLOCK(XG)

### SEMICONDUCTORS

| | | |
|---|---|---|
| | IC 6401 | M66596FP |
| | IC 6402 | TC74LCX32FTS1 |
| | IC 6403 | R5523N001B |
| | IC 6404,6405 | TC74LCX245FTS1 |

| Mark | No. Description | Part No. |
|---|---|---|

### MISCELLANEOUS

| | | |
|---|---|---|
| | L 6401-6405CHIP BEEDS FILTER | BTX1042 |
| | X 6402 CRYSTAL RESONATOR | BSS1131 |

### RESISTORS

| | | |
|---|---|---|
| | R 6401,6402,6411 | RS1/10S0R0J |
| | R 6407 | RAB4CQ103J |
| | R 6418 | RS1/16SS5601F |
| | Other Resistors | RS1/16SS###J |

### CAPACITORS

| | | |
|---|---|---|
| | C 6401,6402 | CCSSCH180J50 |
| | C 6405 | ACH1421 |
| | C 6406-6408,6410-6412 | CKSSYB104K10 |
| | C 6409,6413 | DCH1201 |
| | C 6414-6416,6418-6420 | CKSSYB104K10 |

## Block Name: ARIA 0 BLOCK(XG)

### SEMICONDUCTORS

| | | |
|---|---|---|
| | IC 8001 | PD6568A |

### MISCELLANEOUS

| | | |
|---|---|---|
| | L 8001-8004INDUCTOR | LCYC1R0K1608 |
| | L 8005-8007CHIP BEEDS FILTER | BTX1042 |
| | L 8008,8009CHIP BEEDS FILTER | BTX1039 |
| | X 8001 CRYSTAL(27MHZ) | ASS1213 |

### RESISTORS

| | | |
|---|---|---|
| | R 8004,8007 | RAB4CQ103J |
| | R 8011-8014 | RS1/16S0R0J |
| | Other Resistors | RS1/16SS###J |

### CAPACITORS

| | | |
|---|---|---|
| | C 8001-8004,8066,8067 | CKSRYB105K10 |
| | C 8049 | CCSSCH100D50 |
| | C 8050 | CCSSCH120J50 |
| | C 8069-8075,8077,8079 | CKSRYB105K10 |
| | C 8078,8096-8100 | CKSSYB104K10 |
| | C 8080,8082-8084 | CKSRYB105K10 |
| | C 8087-8091,8093,8094 | CKSRYB105K10 |
| | C 8101,8102,8106,8108 | CKSRYB105K10 |
| | C 8103-8105,8109,8110 | CKSSYB104K10 |
| | C 8111,8118,8124 | CKSRYB105K10 |
| | C 8112,8113,8115,8117 | CKSSYB104K10 |
| | C 8119,8120 | CKSSYB104K10 |
| | C 8138,8140,8142 | DCH1201 |
| | C 8164 | CCG1232 |

## Block Name: ARIA 1 BLOCK(XG)

### RESISTORS

| | | |
|---|---|---|
| | R 8128 | RAB4CQ470J |
| | R 8130 | RS1/10S0R0J |
| | Other Resistors | RS1/16SS####F |

### CAPACITORS

| | | |
|---|---|---|
| | C 8125,8126,8128,8129 | CKSSYB104K10 |
| | C 8145 | DCH1201 |
| | C 8154 | CKSRYB105K10 |
| | C 8155,8156,8159-8162 | CKSSYB104K10 |

## Block Name: ARIA MEM. BLOCK(XG)

### SEMICONDUCTORS

| | | |
|---|---|---|
| | IC 8201,8203 | EDD1232ABBH-5C-E |

### RESISTORS

| Mark | No. Description | Part No. |
|---|---|---|
| R | 8201,8203,8204 | RS1/10S0R0J |
| R | 8247,8248,8251-8260 | RAB4CQ470J |
| R | 8271-8273,8279-8287 | RAB4CQ470J |
|  | Other Resistors | RS1/16SS###J |

### CAPACITORS

| Mark | No. Description | Part No. |
|---|---|---|
| C | 8203,8205,8260 | DCH1201 |
| C | 8209,8210,8214,8215 | CKSSYB104K10 |
| C | 8217,8219,8221-8223 | CKSRYB105K10 |
| C | 8225,8228,8229,8241 | CKSRYB105K10 |
| C | 8230 | CKSSYB104K10 |
| C | 8243,8245-8247,8254 | CKSRYB105K10 |
| C | 8257,8258 | CKSRYB105K10 |
| C | 8259 | CKSSYB103K16 |

**Block Name: IF UCOM BLOCK(XG)**

### SEMICONDUCTORS

| Mark | No. Description | Part No. |
|---|---|---|
| IC | 8302 | PST3628UR |
| IC | 8303,8304 | TC74VHC126FTS1 |
| IC | 8305 | SP3232ECY |
| Q | 8302 | RN1902 |
| Q | 8305 | 2SA1602A |
| D | 8302,8303,8305 | 1SS352 |
| D | 8306 | 1SS301 |

### MISCELLANEOUS

| Mark | No. Description | Part No. |
|---|---|---|
| ⚠ F | 8301-8304INDUCTOR | CTF1557 |
| JA | 8302 MINI JACK(4P) | AKN1073 |
| X | 8301 CERAMIC OSCILLATOR | CSS1616 |
| X | 8302 CRYSTAL OSCILLATOR | ASS1212 |
| CN | 8301 9P D-SUB SOCKET | AKP1213 |

### RESISTORS

| Mark | No. Description | Part No. |
|---|---|---|
| R | 8301 | RS1/10S0R0J |
| R | 8302,8345 | RAB4CQ101J |
| R | 8327,8334 | RAB4CQ103J |
| R | 8365 | RAB4CQ473J |
|  | Other Resistors | RS1/16SS###J |

### CAPACITORS

| Mark | No. Description | Part No. |
|---|---|---|
| C | 8301,8302,8325-8327 | CKSSYB471K50 |
| C | 8303,8304 | CCSSCH100D50 |
| C | 8305 | CKSSYB102K50 |
| C | 8306 | CKSSYB472K16 |
| C | 8307,8322 | DCH1201 |
| C | 8308-8311,8314-8319 | CKSSYB104K10 |
| C | 8321,8332 | CKSSYB104K10 |
| C | 8333 | CKSSYB103K16 |

**Block Name: EMMA2 BLOCK(XG)**

### SEMICONDUCTORS

| Mark | No. Description | Part No. |
|---|---|---|
| IC | 8401 | UPD61123F1-100KA3A |
| IC | 8404 | BR24L64F-W |
| IC | 8405 | TC7WHU04FU |
| IC | 8406 | TC74VHC08FTS1 |
| IC | 8407 | TC74HC4066AFT |
| Q | 8401 | 2SJ461A |
| Q | 8402,8403 | RT1N241M |
| Q | 8405,8408 | SSM6N17FU |
| Q | 8407 | 2SA1602A |

### MISCELLANEOUS

| Mark | No. Description | Part No. |
|---|---|---|
| L | 8401-8403CHIP BEEDS FILTER | BTX1042 |
| F | 8401 FERRITE CORE | VTF1091 |
| X | 8401 CRYSTAL RESONATOR | ASS1220 |

### RESISTORS

| Mark | No. Description | Part No. |
|---|---|---|
| R | 8403 | RS1/10S0R0J |
| R | 8416,8437,8541,8542 | RAB4CQ103J |
| R | 8430-8432,8440 | RS1/16SS2000D |
| R | 8433 | RAB4CQ221J |
| R | 8443,8479,8480,8547 | RAB4CQ101J |
| R | 8446,8454 | RS1/16SS6200D |
| R | 8451 | RS1/16SS3300D |
| R | 8453 | RS1/16SS2200D |
| R | 8489 | RAB4CQ473J |
| R | 8508,8509,8523-8535 | RAB4CQ470J |
| R | 8517 | RAB4CQ222J |
| R | 8537 | RAB4CQ470J |
| R | 8549,8550,8555,8559 | RAB4CQ101J |
| R | 8560 | RAB4CQ101J |
|  | Other Resistors | RS1/16SS###J |

### CAPACITORS

| Mark | No. Description | Part No. |
|---|---|---|
| C | 8401,8423,8425,8427 | CKSRYB105K10 |
| C | 8402,8403,8415 | DCH1201 |
| C | 8406 | CKSSYB102K50 |
| C | 8409,8462 | CCSSCH180J50 |
| C | 8410,8411 | CCSSCH470J50 |
| C | 8413,8420-8422,8436 | CKSSYB104K10 |
| C | 8417 | CKSSYB103K16 |
| C | 8438,8440,8442,8446 | CKSSYB104K10 |
| C | 8448,8459-8461 | CKSSYB104K10 |
| C | 8452-8457 | CKSRYB105K10 |

**Block Name: EMMA2 MEM. BLOCK(XG)**

### SEMICONDUCTORS

| Mark | No. Description | Part No. |
|---|---|---|
| IC | 8601 | K4H511638D-UCB3 |
| IC | 8603 | LP2995M |

### MISCELLANEOUS

| Mark | No. Description | Part No. |
|---|---|---|
| L | 8601 CHIP BEEDS FILTER | BTX1042 |

### RESISTORS

| Mark | No. Description | Part No. |
|---|---|---|
| R | 8601,8608,8611,8612 | RAB4CQ101J |
| R | 8603,8630,8663 | RS1/10S0R0J |
| R | 8621,8670-8673,8681 | RAB4CQ101J |
| R | 8627,8628 | RAB4CQ103J |
| R | 8629,8685-8688 | RAB4CQ220J |
| R | 8643 | RS1/16SS1500F |
| R | 8674-8677 | RAB4CQ470J |
| R | 8678-8680,8682 | RAB4CQ221J |
| R | 8695-8697,8699 | RAB4CQ101J |
|  | Other Resistors | RS1/16SS###J |

### CAPACITORS

| Mark | No. Description | Part No. |
|---|---|---|
| C | 8601,8607,8627,8628 | BCG1059 |
| C | 8602,8604-8606 | CKSSYB104K10 |
| C | 8603,8626 | DCH1201 |
| C | 8608-8611,8613-8617 | CKSSYB104K10 |
| C | 8612 | CKSRYB105K10 |
| C | 8622,8623,8630-8632 | CKSSYB104K10 |
| C | 8624 | CCSSCH390J50 |

## Unit Name: TANSHI ASSY(G) (508XG)

### Block Name: BOARD IF BLOCK(G)

#### SEMICONDUCTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | IC 8871 | | BH3544F |
| | Q 8871 | | 2SC4081 |
| | D 8831,8832 | | UDZS8R2(B) |
| | D 8881-8883 | | UDZS5R1(B) |

#### MISCELLANEOUS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | CN 8801 | L-PLUG(11P) | KM200NA11L |
| | CN 8802 | L-PLUG(5P) | KM200NA5L |
| | CN 8803 | 40P CONNECTER | AKM1348 |
| | CN 8804 | 50P CONNECTER | AKM1349 |
| | CN 8805 | CONNECTOR 7P | AKM1377 |
| | CN 8806 | CONNECTOR | B5P-VH |

#### RESISTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | R 8821,8822,8877-8879 | | RS1/16S0R0J |
| | R 8828-8830 | | RS1/10S0R0J |
| | R 8881,8886,8887 | | RS1/16S75R0F |
| | R 8882-8884 | | RS1/16S0R0J |
| | Other Resistors | | RS1/16SS###J |

#### CAPACITORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | C 8831,8832,8871-8873 | | CKSRYB105K10 |
| | C 8874,8879 | | CKSSYB104K10 |
| | C 8875 | | DCH1201 |
| | C 8876 | | CEHVKW470M6R3 |
| | C 8881,8882 | | CKSRYB105K10 |
| | C 8883,8884 | | CKSSYB103K16 |
| | C 8885 | | CKSSYB473K16 |

### Block Name: IO 2 BLOCK(G)

#### MISCELLANEOUS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | JA 8901 | PIN JACK(S+PJ)VERT | AKB1347 |

#### RESISTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | R 8901-8903,8906-8908 | | RS1/16S75R0F |
| | R 8911-8913 | | RS1/16S75R0F |
| | Other Resistors | | RS1/16SS###J |

#### CAPACITORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | C 8901,8908,8915 | | CKSSYB104K10 |
| | C 8902,8909,8916 | | CKSSYB473K16 |
| | C 8904-8907,8911-8914 | | CKSRYB105K10 |
| | C 8917,8928,8929 | | CKSSYB103K16 |
| | C 8918-8921 | | CKSRYB105K10 |
| | C 8922-8927 | | CKSSYB102K50 |

### Block Name: IO 2 BLOCK(G)

#### SEMICONDUCTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | Q 9004-9006 | | 2SD2114K |
| | Q 9091 | | HN1B04FU |
| | D 9002-9008 | | 1SS302 |
| | TH 9091 | | TH05-3H103F |

#### MISCELLANEOUS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| ⚠ | F 9001-9003 | INDUCTOR | CTF1557 |
| | JA 9001 | JACK | VKN1449 |

#### RESISTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | R 9001-9006 | | RS1/16S75R0F |
| | R 9007 | | RS1/10S121J |
| | R 9008 | | RS1/10S151J |
| | R 9016,9021 | | RS1/16S221J |
| | R 9091 | | RS1/16S4701F |
| | Other Resistors | | RS1/16SS###J |

#### CAPACITORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | C 9001,9002,9091 | | CKSSYB104K10 |
| | C 9003-9010 | | CKSRYB105K10 |
| | C 9011,9012 | | CKSRYB102K50 |
| | C 9013-9015 | | CKSSYB471K50 |
| | C 9016 | | DCH1201 |
| | C 9017,9018 | | CCG1205 |
| | C 9019 | | ACH1454 |
| | C 9092 | | CKSSYB103K16 |

### Block Name: MSP BLOCK(G)

#### SEMICONDUCTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | IC 9101 | | MSP5651M-QK-C2 |
| | IC 9151 | | BA4560RF |
| | IC 9181 | | NJM78M12DL1A |
| | IC 9191 | | NJM2846DL3-18 |
| | Q 9001 | | RT1N241M |
| | Q 9101 | | 2SC4081 |
| | D 9001 | | 1SS301 |
| | D 9181,9191 | | 1SS352 |

#### MISCELLANEOUS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | X 9101 | CRYSTAL(20.25MHZ) | ASS1217 |

#### RESISTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | R 9117 | | RAB4CQ471J |
| | R 9125,9126,9131,9132 | | RS1/16S0R0J |
| | R 9143-9145 | | RS1/16S0R0J |
| | R 9146,9192 | | RS1/10S0R0J |
| | R 9184 | | RS1LMF220J |
| | Other Resistors | | RS1/16SS###J |

#### CAPACITORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | C 9105-9107 | | CCG1205 |
| | C 9109,9111,9113,9116 | | DCH1201 |
| | C 9110,9112,9114,9117 | | CKSSYB103K16 |
| | C 9115,9120,9130 | | CKSSYB473K16 |
| | C 9118,9122,9124,9126 | | DCH1201 |
| | C 9119,9121,9123,9125 | | CKSSYB103K16 |
| | C 9127,9129,9132,9136 | | CKSSYB103K16 |
| | C 9128,9134,9137,9144 | | DCH1201 |
| | C 9131,9133,9135,9138 | | CCSSCH560J50 |
| | C 9141,9142 | | CCSSCH220J50 |
| | C 9143,9145,9147 | | CKSSYB103K16 |
| | C 9146,9148,9153,9154 | | DCH1165 |
| | C 9151,9152,9192 | | DCH1201 |
| | C 9155,9184 | | CKSSYB682K25 |
| | C 9157,9158 | | CCSSCH150J50 |
| | C 9181 | | CKSRYB104K25 |
| | C 9182,9183 | | CEHVKW470M25 |
| | C 9191 | | CKSRYB105K10 |

### Block Name: D-AMP BLOCK(50/60)

#### SEMICONDUCTORS

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | IC 9201 | | TAS5122DCA |
| | Q 9204 | | RT1N241M |
| | Q 9205,9206 | | 2SA1602A |

**Mark No. Description Part No.**

### MISCELLANEOUS

| Mark | No. Description | Part No. |
|---|---|---|
| | L 9255,9256INDUCTOR | ATH1225 |
| ⚠ | F 9251,9252COMMON MODE FILTER | ATF1224 |
| ⚠ | F 9301,9302COMMON MODE FILTER | ATF1224 |
| | JA 9301 SPEAKER TERMINAL 4P | AKE1064 |
| | CN 9251 PLUG(8P) | KM200NA8 |
| | CN 9301 PLUG(4P) | KM200NA4 |

### RESISTORS

| Mark | No. Description | Part No. |
|---|---|---|
| | R 9201-9204 | ACN7141 |
| | R 9205,9206 | RS1/16SS0R0J |
| | R 9209-9212 | ACN1269 |
| | R 9216 | RS1/16SS473J |
| | R 9229 | RS1/16SS472J |
| | R 9230 | RS1/16SS183J |
| | R 9232 | RS1/16SS101J |
| | R 9233,9275-9281 | RS1/16SS103J |
| | Other Resistors | RS1/16S###J |

### CAPACITORS

| Mark | No. Description | Part No. |
|---|---|---|
| | C 9201-9208 | CKSRYB224K16 |
| | C 9217-9224 | CKSRYB683K16 |
| | C 9225,9226,9235,9236 | CKSRYB104K25 |
| | C 9231,9232 | BCG1060 |
| | C 9241,9242 | CEHAZL222M25-P35 |
| | C 9243,9244 | CKSRYB104K25 |
| | C 9251-9254 | ACE1182 |
| | C 9255,9256 | ACE1183 |
| | C 9257-9264 | CKSRYB223K50 |
| | C 9269-9272 | CCSRCH221J50 |
| | C 9273-9276,9305-9308 | CKSRYB682K50 |
| | C 9277-9280,9309-9312 | CKSRYF104Z50 |
| ⚠ | C 9285-9288 | CCSRCH101J50 |
| | C 9291 | ACH1430 |
| ⚠ | C 9313-9320 | CCSRCH221J50 |

## Unit Name: SIDE IO ASSY(G)

### MISCELLANEOUS

| Mark | No. Description | Part No. |
|---|---|---|
| | JA 9351 PIN JACK(3P) | AKB1303 |
| | JA 9352 4P MINIDIN SOCKET(S) | AKP1238 |
| | CN 9351 PLUG(11P) | KM200NA11 |
| | CN 9352 PLUG(5P) | KM200NA5 |
| | CN 9353 JACK | AKN1028 |
| | 9354,9355SCREW TERMINAL | VNE1949 |

### RESISTORS

| Mark | No. Description | Part No. |
|---|---|---|
| | R 9361,9362 | ACN1260 |
| | Other Resistors | RS1/16SS###J |

### CAPACITORS

| Mark | No. Description | Part No. |
|---|---|---|
| | C 9353,9354 | CKSSYB102K50 |
| | C 9356 | CKSSYB103K16 |
| | C 9361,9362 | ACH1454 |

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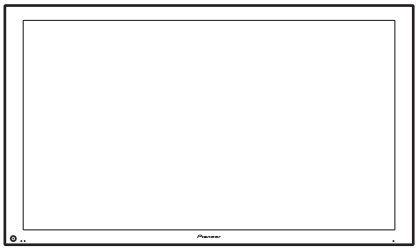
# Service Manual



PDP-5080XA

ORDER NO.
**ARP3445**

## PLASMA TELEVISION

# PDP-5080XA
# PDP-5080XD
# PDP-508XD

### THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

| Model | Type | Power Requirement | Remarks |
|---|---|---|---|
| PDP-5080XA | WYV5 | AC 220 V to 240 V | |
| | WYVIXK5 | AC 220 V to 240 V | |
| PDP-5080XD | WYV5 | AC 220 V to 240 V | |
| | WYVIXK5 | AC 220 V to 240 V | |
| PDP-508XD | WYV5 | AC 220 V to 240 V | |
| | WYVIXK5 | AC 220 V to 240 V | |

For details, refer to "Important Check Points for good servicing".

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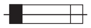
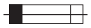
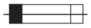
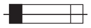
# SAFETY INFORMATION

**This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.**
**Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.**

**WARNING**
**This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.**

**Health & Safety Code Section 25249.6 - Proposition 65**

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible  (fusible de type rapide) et/ou  (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

## SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

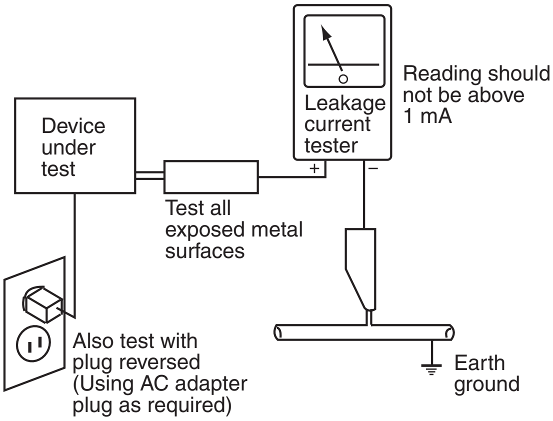
1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.
6. Perform the following precautions against unwanted radiation and rise in internal temperature.
   - Always return the internal wiring to the original styling.
   - Attach parts (Gascket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
7. Perform the following precautions for the PDP panel.
   - When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
   - Make sure that the panel vent does not break. (Check that the cover is attached.)
   - Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
8. Pay attention to the following.
   - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

## Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 4 MΩ.
The below 4 MΩ resistor value indicate an abnormality which require corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

## Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).
Turn the AC power switch on.
Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 1 mA.


Device under test
Leakage current tester
Reading should not be above 1 mA
+
−
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

**ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.**

## PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

## [Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

### 1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

### 2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

### 3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

### 4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

### 5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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# 1. SERVICE PRECAUTIONS

## 1.1 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
  Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.

- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 °C.
  Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 °C in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:

- Parts numbers of lead-free solder:
  GYP1006 1.0 in dia.
  GYP1007 0.6 in dia.
  GYP1008 0.3 in dia.

# 1.2 CHARGED SECTION AND HIGH VOLTAGE GENERATING POINT

## ■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.
If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. Power Cord
2. AC Inlet
3. Power Switch
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer
   (In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

## ■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.
The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in “5.6.1 PANEL DRIVE-POWER ON/OFF FUNCTION ” are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

| | |
|---|---|
| POWER SUPPLY UNIT | (205 V) |
| 50 X DRIVE Assy | (205 V) |
| 50 Y DRIVE Assy | (-230 V to 500 V) |
| 50 SCAN A Assy | (-230 V to 500 V) |
| 50 SCAN B Assy | (-230 V to 500 V) |

▨ : Part is Charged Section.

□ : Part is the High Voltage Generating Points
other than the Charged Section.

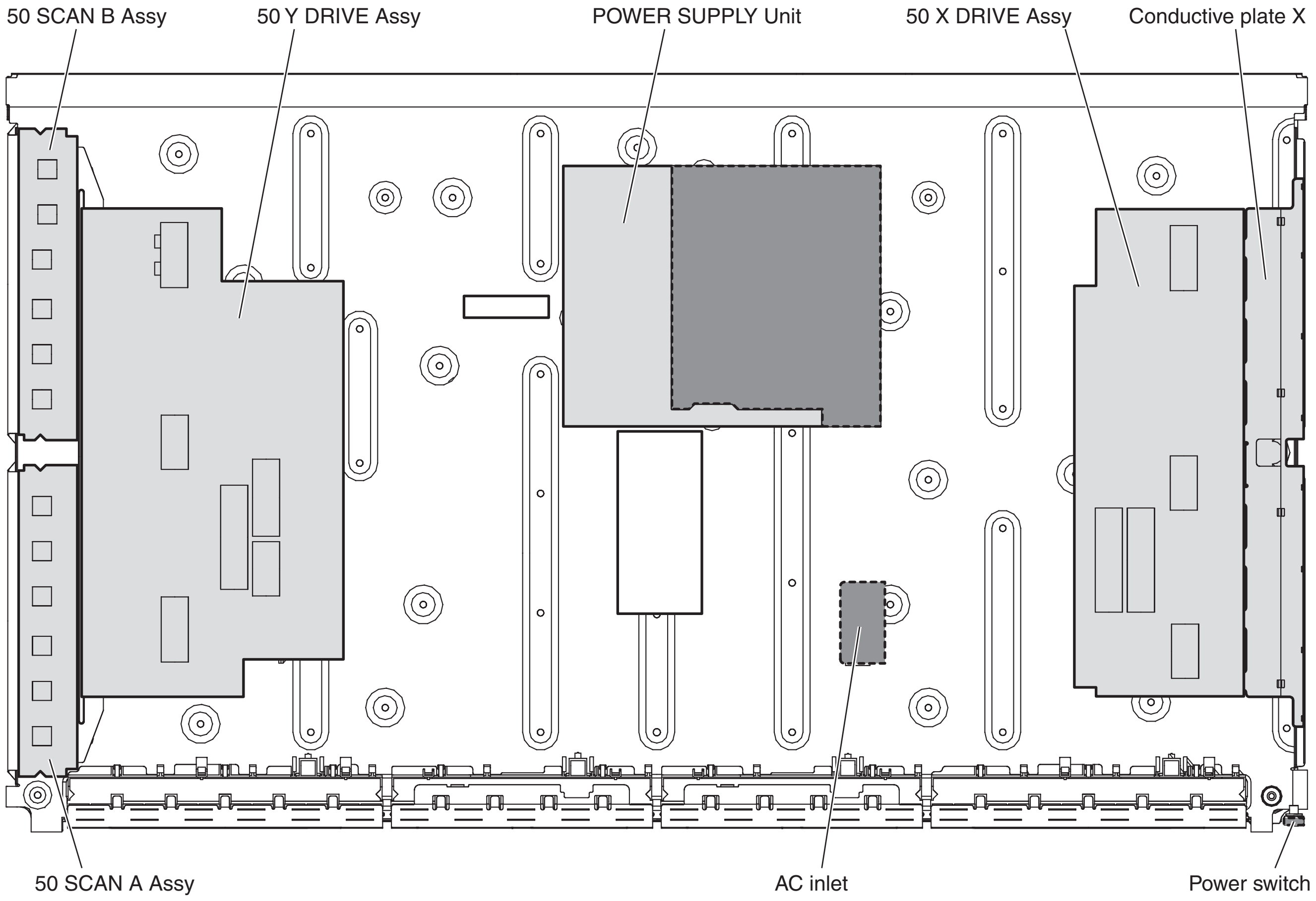
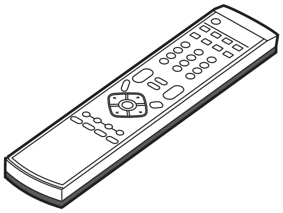


Fig. High Voltage Generating Point (Rear view)

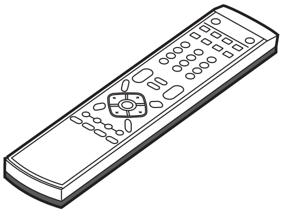
# 2. SPECIFICATIONS

## 2.1 ACCESSORIES

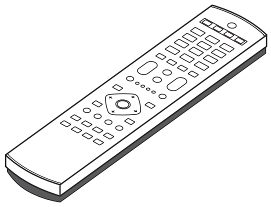
- Remote control unit (PDP-5080XA)
  (AXD1553)



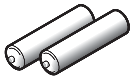
- Remote control unit (PDP-5080XD)
  (AXD1552)



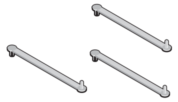
- Remote control unit (PDP-508XD)
  (AXD1551)



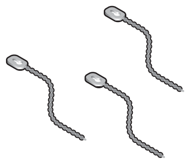
- Dry cell battery (R06, AA)



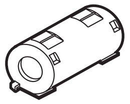
- Binder Assy
  (AEC1908)
  - Speed clamp: ×3



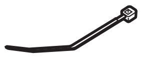
  - Bead band: ×3



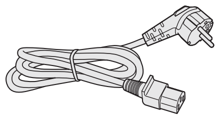
- Ferrite core (L5321)
  (ATX1039)
  - Ferrite core



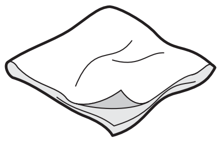
  - Cable tie
    (for ferrite core)



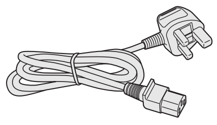
- Power cord
  (ADG1214)



- Cleaning cloth (AED1285)

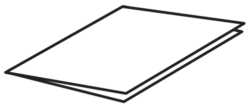


- Power cord
  (ADG1223)

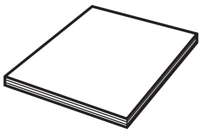


WYVIXK5 type only

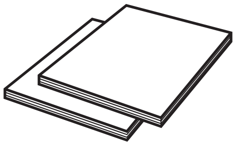
- Warranty card



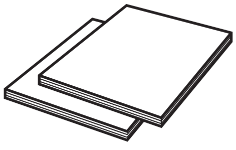
- Operating instructions (PDP-5080XA)
  (ARE1478: WYV5)
  (ARE1477: WYVIXK5)



- Operating instructions (PDP-5080XD)
  (ARE1485: WYV5)
  (ARC1602: WYV5)
  (ARE1476: WYVIXK5)
  (ARC1587: WYVIXK5)



- Operating instructions (PDP-508XD)
  (ARE1484: WYV5)
  (ARC1601: WYV5)
  (ARE1475: WYVIXK5)
  (ARC1586: WYVIXK5)



## 2.2 SPECIFICATIONS

### ■ PDP-5080XA

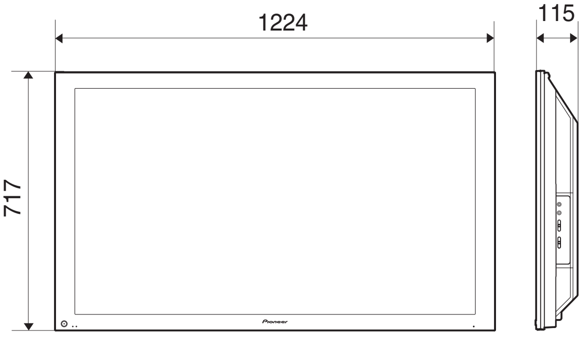
| Item | | | 50" plasma television, model: PDP-5080XA | |
|---|---|---|---|---|
| Number of pixels | | | 1365 x 768 pixels | |
| Audio amplifier | | | 17 W + 17 W (1 kHz, 10 %, 6 Ω) | |
| Speakers | | | – | |
| Sound Effect | | | SRS FOCUS/SRS/SRS TruBass | |
| Power Requirements | | | 220 V to 240 V AC, 50 Hz/60 Hz, 361 W (0.3 W Standby) | |
| Weight | | | 34.4 kg (75.8 lbs.) | |
| Colour System | | | PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60 | |
| TV Function | Receiving System | | B/G, D/K, I, L/L' | |
| | Tuner | VHF/UHF | E2–E69 ch, F2–F10 ch, I21–I69 ch, IR A–IR J ch | |
| | | CATV | Hyper-band, S1–S41 ch | |
| | Auto Channel Preset | | 99 ch, Auto Preset, Auto Label, Auto Sort | |
| | STEREO | | NICAM/A2 | |
| Terminals | Rear | INPUT 1 | SCART (AV in, RGB in, TV out), HDMI in[*1] | |
| | | INPUT 2 | SCART (AV in/out, S-VIDEO in, AV link[*2]), Component Video in, AUDIO in | |
| | | INPUT 3 | SCART (AV in/out, S-VIDEO in, RGB in, AV link[*2]), HDMI in[*1] | |
| | | INPUT 4 | HDMI in[*1] | |
| | | CONTROL OUT | 1 | |
| | | SPEAKERS | 6 Ω to 16 Ω | |
| | | Antenna | 75 Ω Din Type for VHF/UHF in | |
| | | PC INPUT | Analogue RGB in, Audio in | |
| | | AUDIO OUT | AUDIO out (Fixed) | |
| | Side | INPUT 5 | S-VIDEO, AV in | |
| | | PHONES | 16 Ω to 32 Ω recommended | |

[*1] This conforms to HDMI1.3 and HDCP1.1. HDMI (High Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable. HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

[*2] Switchable from menu.

*Design and specifications are subject to change without notice.*

### • Dimensions



Unit: mm

## PDP-5080XD

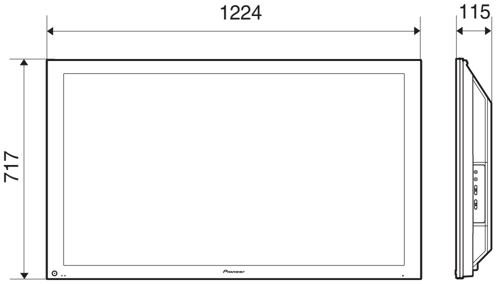
| Item | | | 50” plasma television, model: PDP-5080XD | |
|---|---|---|---|---|
| Number of pixels | | | 1365 x 768 pixels | |
| Audio amplifier | | | 17 W + 17 W (1 kHz, 10 %, 6 Ω) | |
| Speakers | | | – | |
| Sound Effect | | | SRS FOCUS/SRS/SRS TruBass | |
| Power Requirements | | | 220 V to 240 V AC, 50 Hz/60 Hz, 363 W (0.4 W Standby) | |
| Weight | | | 34.5 kg (76.1 lbs.) | |
| Colour System | | Analogue | PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60 | |
| | | Digital | PAL/SECAM | |
| TV Function (Analogue) | Receiving System | | B/G, D/K, I, L/L’ | |
| | Tuner | VHF/UHF | E2–E69 ch, F2–F10 ch, I21–I69 ch, IR A–IR J ch | |
| | | CATV | Hyper-band, S1–S41 ch | |
| | Auto Channel Preset | | 99 ch, Auto Preset, Auto Label, Auto Sort | |
| | STEREO | | NICAM/A2 | |
| TV Function (Digital) | Receiving System | | DVB-T(2K/8K COFDM) | |
| | Tuner | VHF/UHF | VHF Band III (170 MHz to 230 MHz) and UHF Band IV, V (470 MHz to 862 MHz) | |
| | Auto Channel Preset | | 99 ch, Auto Preset, Auto Label, Auto Sort | |
| | STEREO | | MPEG layer I/II, Dolby Digital | |
| Terminals | Rear | INPUT 1 | SCART (AV in, RGB in, TV out), HDMI in [*1] | |
| | | INPUT 2 | SCART (AV in/out, S-VIDEO in, AV link [*2]), Component Video in, AUDIO in | |
| | | INPUT 3 | SCART (AV in/out, S-VIDEO in, RGB in, AV link[*2]), HDMI in[*1] | |
| | | INPUT 4 | HDMI in[*1] | |
| | | CONTROL OUT | 1 | |
| | | SPEAKERS | 6 Ω to 16 Ω | |
| | | Antenna | 75 Ω Din Type for VHF/UHF in | |
| | | PC INPUT | Analogue RGB in, Audio in | |
| | | AUDIO OUT | AUDIO out (Fixed) | |
| | | DIGITAL OUT | Digital audio output (Optical) | |
| | | COMMON INTERFACE | CA Module | |
| | Side | INPUT 5 | S-VIDEO, AV in | |
| | | PHONES | 16 Ω to 32 Ω recommended | |

[*1] This conforms to HDMI1.3 and HDCP1.1. HDMI (High Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable. HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

[*2] Switchable from menu.

*Design and specifications are subject to change without notice.*

- **Dimensions**



Unit: mm

## PDP-508XD

| Item | | | 50” plasma television, model: PDP-508XD | |
|---|---|---|---|---|
| Number of pixels | | | 1365 x 768 pixels | |
| Audio amplifier | | | 17 W + 17 W (1 kHz, 10 %, 6 Ω) | |
| Speakers | | | – | |
| Sound Effect | | | SRS FOCUS/SRS/SRS TruBass | |
| Power Requirements | | | 220 V to 240 V AC, 50 Hz/60 Hz, 364 W (0.4 W Standby) | |
| Weight | | | 34.5 kg (76.1 lbs.) | |
| Colour System | | Analogue | PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60 | |
| | | Digital | PAL/SECAM | |
| TV Function (Analogue) | Receiving System | | B/G, D/K, I, L/L’ | |
| | Tuner | VHF/UHF | E2–E69 ch, F2–F10 ch, I21–I69 ch, IR A–IR J ch | |
| | | CATV | Hyper-band, S1–S41 ch | |
| | Auto Channel Preset | | 99 ch, Auto Preset, Auto Label, Auto Sort | |
| | STEREO | | NICAM/A2 | |
| TV Function (Digital) | Receiving System | | DVB-T(2K/8K COFDM) | |
| | Tuner | VHF/UHF | VHF Band III (170 MHz to 230 MHz) and UHF Band IV, V (470 MHz to 862 MHz) | |
| | Auto Channel Preset | | 99 ch, Auto Preset, Auto Label, Auto Sort | |
| | STEREO | | MPEG layer I/II, Dolby Digital | |
| Terminals | Rear | INPUT 1 | SCART (AV in, RGB in, TV out), HDMI in [*1] | |
| | | INPUT 2 | SCART (AV in/out, S-VIDEO in, AV link [*2]), Component Video in, AUDIO in | |
| | | INPUT 3 | SCART (AV in/out, S-VIDEO in, RGB in, AV link[*2]), HDMI in[*1] | |
| | | INPUT 4 | HDMI in[*1] | |
| | | CONTROL OUT | 1 | |
| | | SPEAKERS | 6 Ω to 16 Ω | |
| | | Antenna | 75 Ω Din Type for VHF/UHF in | |
| | | PC INPUT | Analogue RGB in, Audio in | |
| | | AUDIO OUT | AUDIO out (Fixed) | |
| | | SUB WOOFER | Variable | |
| | | DIGITAL OUT | Digital audio output (Optical) | |
| | | COMMON INTERFACE | CA Module | |
| | Side | INPUT 5 | S-VIDEO, AV in | |
| | | USB | USB in[*3] | |
| | | PHONES | 16 Ω to 32 Ω recommended | |

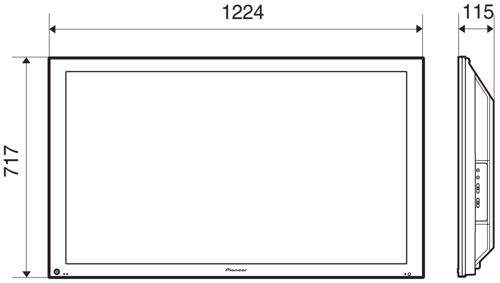
[*1] This conforms to HDMI1.3 and HDCP1.1. HDMI (High Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable. HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

[*2] Switchable from menu.

[*3] This conforms to USB 1.1 and 2.0 specifications.

*Design and specifications are subject to change without notice.*

- **Dimensions**

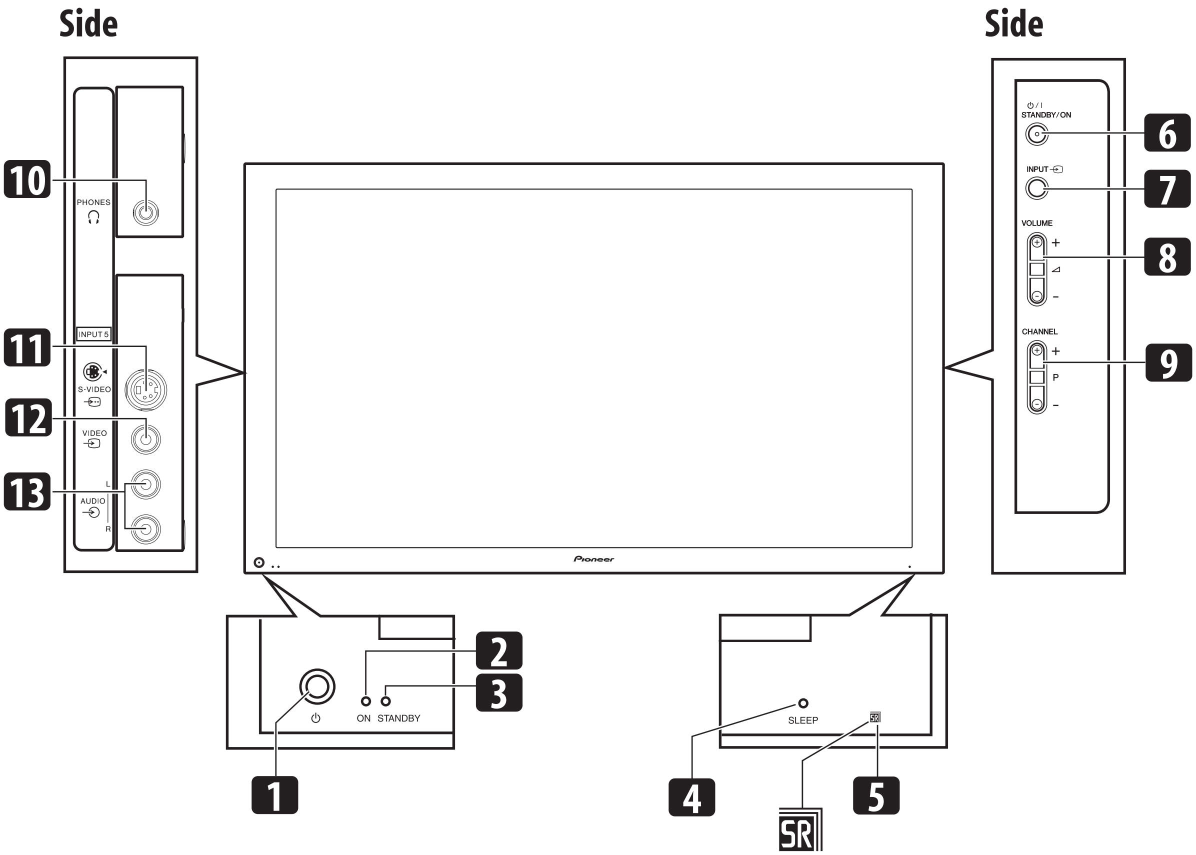


Unit: mm

## 2.3 PANEL FACILITIES

### ■ PDP-5080XA

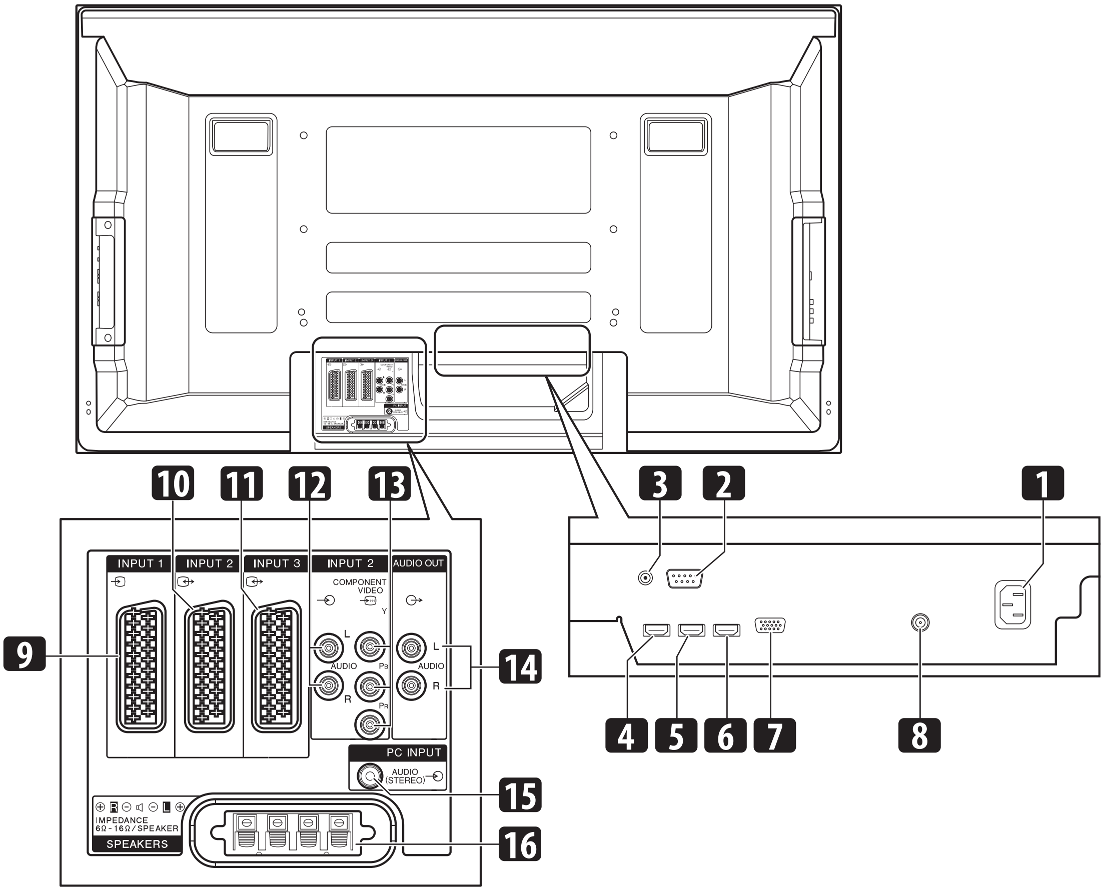
**• Front Section**


Side
Side
10
PHONES
11
INPUT 5
S-VIDEO
12
VIDEO
13
L
AUDIO
R
6
STANDBY/ON
7
INPUT
8
VOLUME
+
–
9
CHANNEL
+
P
–
Pioneer
2
3
ON
STANDBY
1
SLEEP
4
5
SR

1 ⏻ button (If the button is off, the power will not turn on even when ⏻, **0** to **9** on the remote control unit or **STANDBY/ON** on the plasma television are pressed.)
2 POWER ON indicator
3 STANDBY indicator
4 SLEEP indicator
5 Remote control sensor
6 **STANDBY/ON** button
7 **INPUT** button
8 **VOLUME +/–** buttons
9 **CHANNEL +/–** buttons
10 PHONES output terminal
11 INPUT 5 terminal (S-VIDEO)
12 INPUT 5 terminal (VIDEO)
13 INPUT 5 terminals (AUDIO)

# PDP-5080XA

## • Rear Section



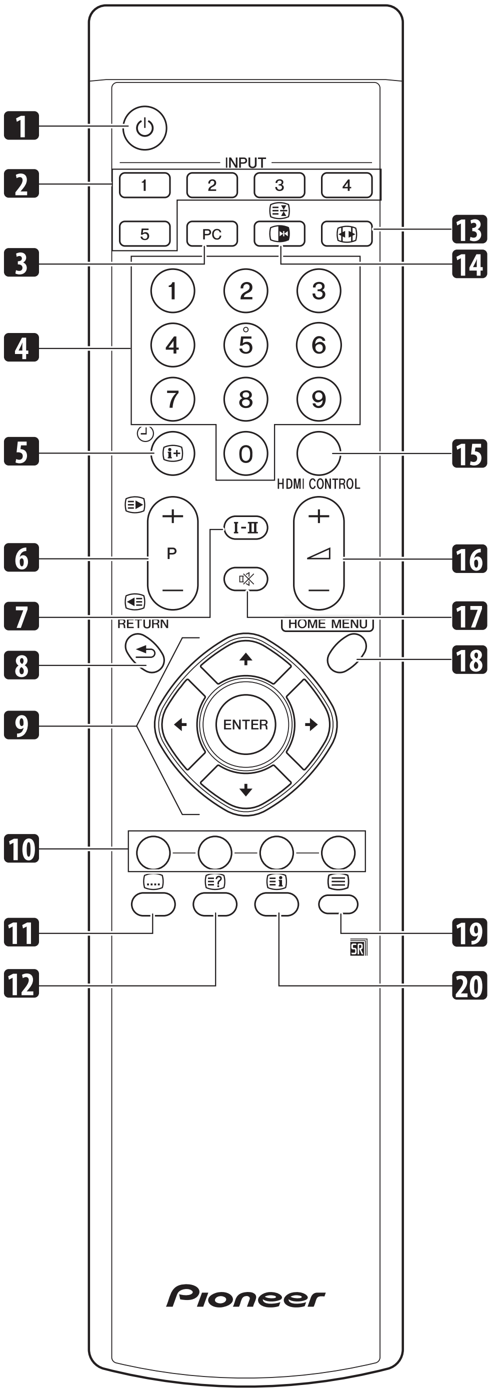
10
11
12
13
3
2
1
INPUT 1
INPUT 2
INPUT 3
INPUT 2
AUDIO OUT
COMPONENT VIDEO
Y
L
AUDIO
R
PB
PR
9
14
PC INPUT
AUDIO (STEREO)
15
IMPEDANCE 6Ω - 16Ω / SPEAKER
SPEAKERS
16
4
5
6
7
8

| | | | |
|---|---|---|---|
| **1** | AC IN terminal | **9** | INPUT 1 terminal (SCART) |
| **2** | RS-232C terminal (used for factory setup) | **10** | INPUT 2 terminal (SCART) |
| **3** | CONTROL OUT terminal (supports **SR+**) | **11** | INPUT 3 terminal (SCART) |
| **4** | INPUT 1 terminal (HDMI) | **12** | INPUT 2 terminals (Audio) |
| **5** | INPUT 3 terminal (HDMI) | **13** | INPUT 2 terminals (COMPONENT VIDEO: Y, $P_B$, $P_R$) |
| **6** | INPUT 4 terminal (HDMI) | **14** | AUDIO OUT terminals |
| **7** | PC INPUT terminal (Analogue RGB) | **15** | PC INPUT terminal (Audio) |
| **8** | ANT (Antenna) input terminal | **16** | SPEAKERS terminals (right/left) |

## ■ PDP-5080XA

### • Remote Control Unit

Point the remote control at the plasma television to operate.



**1 ⏻**

Turns on the power to the plasma television or places it into the standby mode.

**2 INPUT**

Selects an input source of the plasma television. (“INPUT 1”, “INPUT 2”, “INPUT 3”, “INPUT 4”, “INPUT 5”)

**3 PC**

Selects the PC terminal as an input source.

**4 0 to 9**

TV/External input mode: Selects a channel.
Teletext mode: Selects a page.
Turns the power on when the STANDBY indicator lights red.

**5 i+ ◷**

Displays the channel information.

**6 P+/P–**

TV/External input mode: Selects a channel.

**≡▶/◀≡**

Teletext mode: Selects a page.

**7 I–II**

Sets the sound multiplex mode.

**8 ↩ RETURN**

Restores the previous menu screen.

**9 ⬆/⬇/⬅/➡**

Selects a desired item on the setting screen.

**ENTER**

Executes a command.

**10 Colour (RED/GREEN/YELLOW/BLUE)**

Teletext mode: Selects a page.

**11 ....**

Jumps to Teletext subtitle page.

**12 ≡?**

Displays hidden characters.

**13 ◀▶**

Selects the screen size.

**14 ◧**

TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.

**≡⧗**

Teletext mode: Stops updating Teletext pages. Press again to release the hold mode.

**15 HDMI CONTROL**

Displays the HDMI Control menu.

**16 ◿ +/◿ –**

Sets the volume.

**17 🔇**

Mutes the sound.

**18 HOME MENU**

Displays the HOME MENU screen.

**19 ≡**

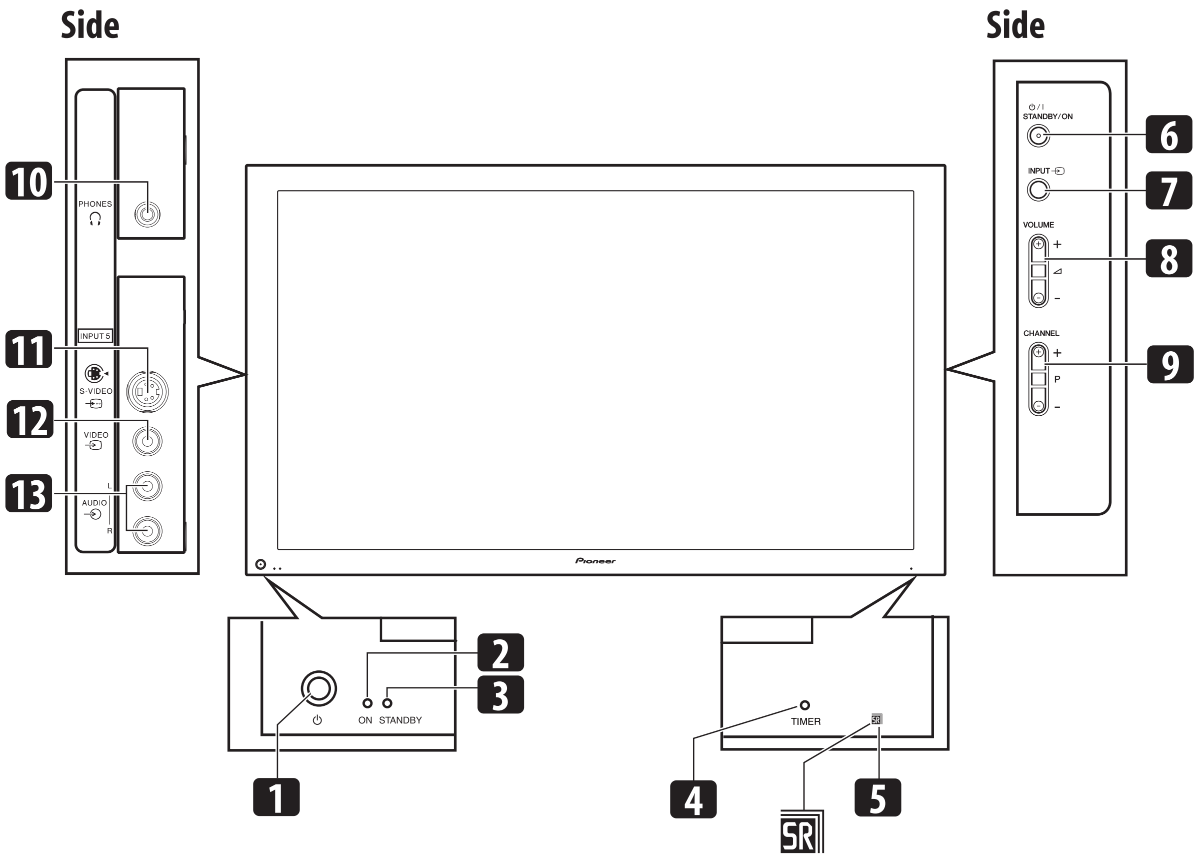
Selects the Teletext mode (all TV image, all TEXT image, TV/TEXT image).

**20 ≡i**

Displays an Index page for the CEEFAX/FLOF format. Displays a TOP Over View page for the TOP format.

## PDP-5080XD

### • Front Section

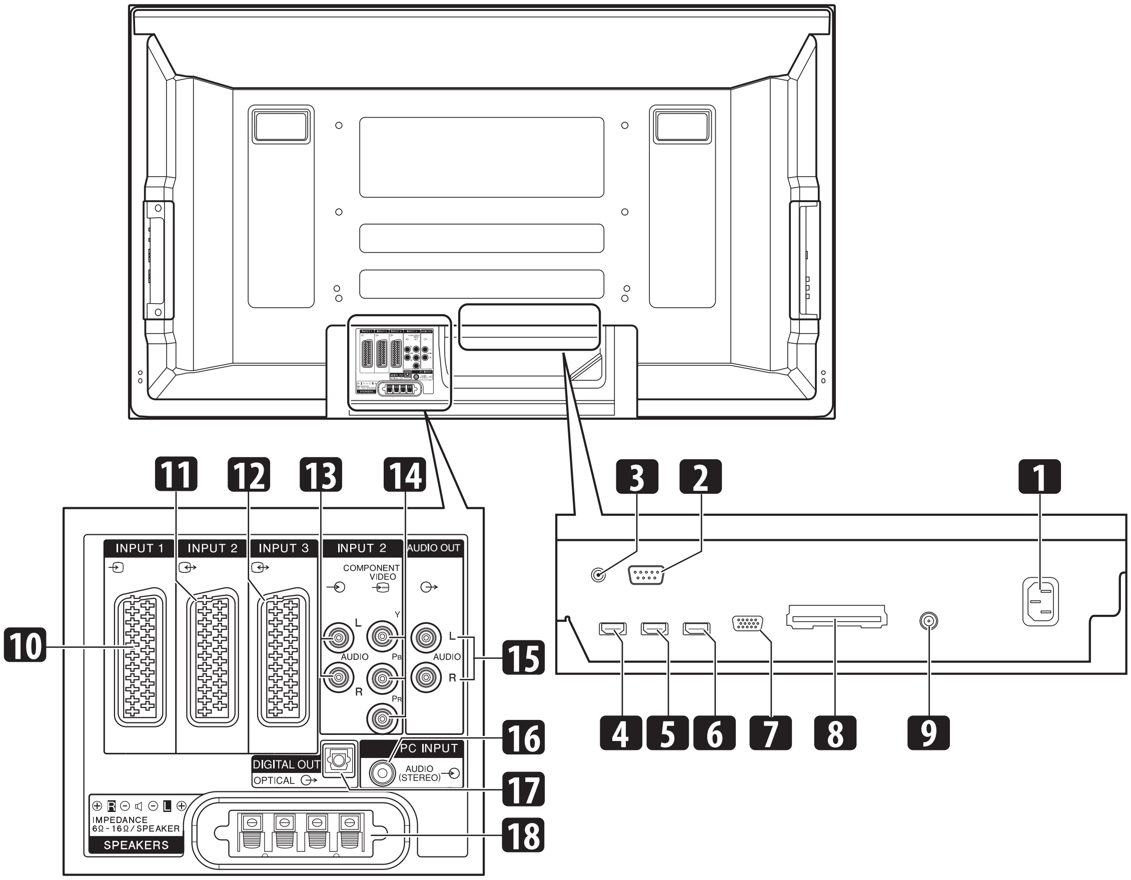

Side
Side
10
PHONES
INPUT 5
11
S-VIDEO
12
VIDEO
13
L
AUDIO
R
STANDBY/ON
6
INPUT
7
VOLUME
+
–
8
CHANNEL
+
P
–
9
Pioneer
2
3
ON
STANDBY
1
TIMER
4
5
SR

1 ⏻ button (If the button is off, the power will not turn on even when ⏻, **0** to **9** on the remote control unit or **STANDBY/ON** on the plasma television are pressed.)
2 POWER ON indicator
3 STANDBY indicator
4 TIMER indicator
- The TIMER indicator lights up when one or more DTV programmes are preset for watching or recording.

5 Remote control sensor
6 **STANDBY/ON** button
7 **INPUT** button
8 **VOLUME +/–** buttons
9 **CHANNEL +/–** buttons
10 PHONES output terminal
11 INPUT 5 terminal (S-VIDEO)
12 INPUT 5 terminal (VIDEO)
13 INPUT 5 terminals (AUDIO)

## PDP-5080XD

### • Rear Section


11
12
13
14
3
2
1
INPUT 1
INPUT 2
INPUT 3
INPUT 2
AUDIO OUT
COMPONENT VIDEO
L
Y
L
AUDIO
PB
AUDIO
R
R
PR
10
15
16
4
5
6
7
8
9
DIGITAL OUT
OPTICAL
PC INPUT
AUDIO (STEREO)
17
IMPEDANCE 6Ω - 16Ω / SPEAKER
SPEAKERS
18

1 AC IN terminal
2 RS-232C terminal (used for factory setup)
3 CONTROL OUT terminal (supports **SR+**)
4 INPUT 1 terminal (HDMI)
5 INPUT 3 terminal (HDMI)
6 INPUT 4 terminal (HDMI)
7 PC INPUT terminal (Analogue RGB)
8 COMMON INTERFACE slot
- For a CA Module with a smart card

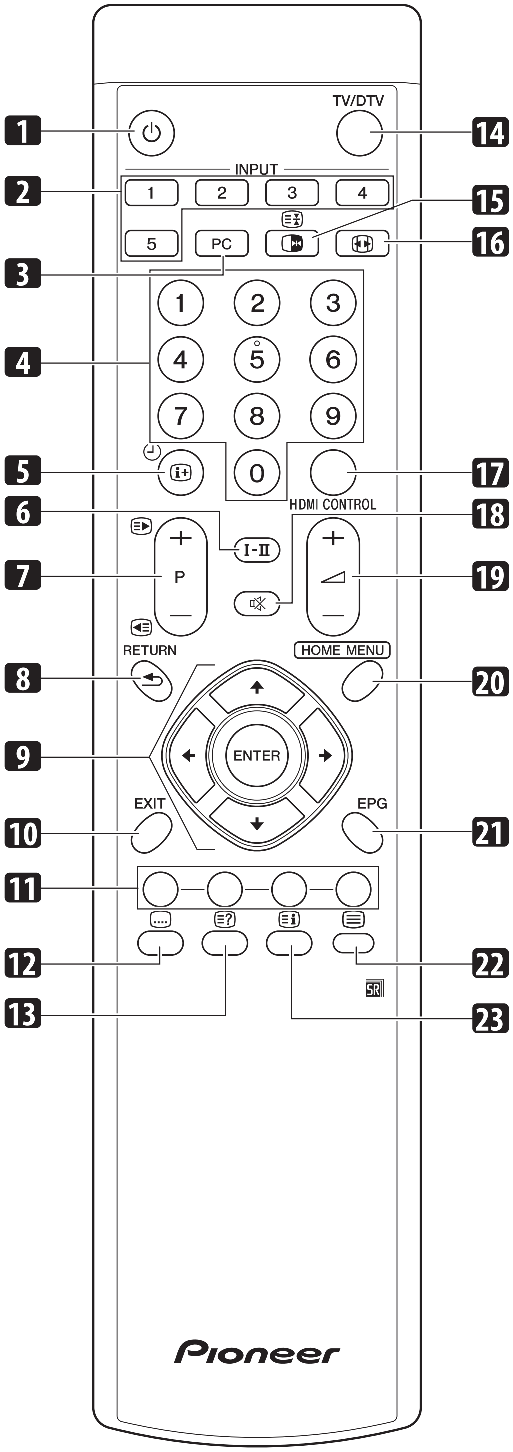
9 ANT (Antenna) input terminal
- Power can be supplied through this terminal

10 INPUT 1 terminal (SCART)
11 INPUT 2 terminal (SCART)
12 INPUT 3 terminal (SCART)
13 INPUT 2 terminals (Audio)
14 INPUT 2 terminals (COMPONENT VIDEO: Y, $P_B$, $P_R$)
15 AUDIO OUT terminals
16 PC INPUT terminal (Audio)
17 DIGITAL OUT terminal (OPTICAL)
18 SPEAKERS terminals (right/left)

## ■ PDP-5080XD

### • Remote Control Unit

Point the remote control at the plasma television to operate.



1 **⏻:** Turns on the power to the plasma television or places it into the standby mode.

2 **INPUT:** Selects an input source of the plasma television. ("INPUT 1", "INPUT 2", "INPUT 3", "INPUT 4", "INPUT 5")

3 **PC:** Selects the PC terminal as an input source.

4 **0 - 9:** TV/External input mode: Selects a channel.
Teletext mode: Selects a page.
Turns the power on when the STANDBY indicator lights red.

5 **(i+) ◷ :** Displays the channel information.
Displays the banner information in DTV input mode.

6 **I–II:** Sets the sound multiplex mode.

7 **P+/P–:** TV/External input mode: Selects a channel.

**≡▶/◀≡:** Teletext mode: Selects a page.

8 **⮌ RETURN:** Restores the previous menu screen.

9 **⬆/⬇/⬅/➡:** Selects a desired item on the setting screen.

**ENTER:** Executes a command.

10 **EXIT:** Returns to the normal screen in one step.

11 **Colour (RED/GREEN/YELLOW/BLUE):**
Teletext mode: Selects a page.

12 **(....):** Jumps to Teletext subtitle page.
Turns subtitle on and off in DTV input mode depending on the broadcast.

13 **≡?:** Displays hidden characters.

14 **TV/DTV:** Switches between the TV and DTV input modes.

15 **⧓:** TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.

**≡⧗ :** Teletext mode: Stops updating Teletext pages. Press again to release the hold mode.

16 **⊞:** Selects the screen size.

17 **HDMI CONTROL:** Displays the HDMI Control menu.

18 **🔇:** Mutes the sound.

19 **◢ +/◢ –:** Sets the volume.

20 **HOME MENU:** Displays the HOME MENU screen.

21 **EPG:** Displays the Electronic Programme Guide in DTV input mode.

22 **≣:** Selects the Teletext mode (all TV image, all TEXT image, TV/TEXT image).

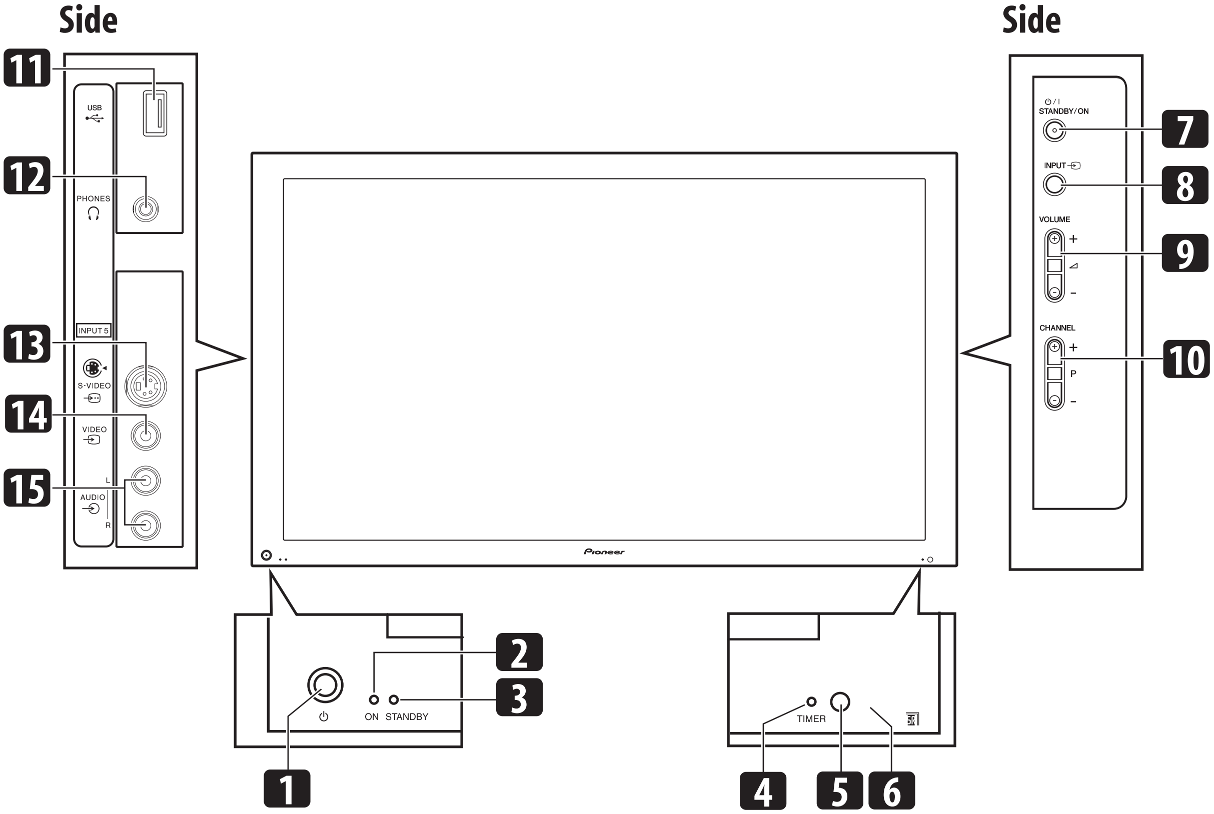
23 **≡i:** Displays an Index page for the CEEFAX/FLOF format.
Displays a TOP Over View page for the TOP format.

**Note**

- When using the remote control unit, point it at the plasma television.

## PDP-508XD

### • Front Section

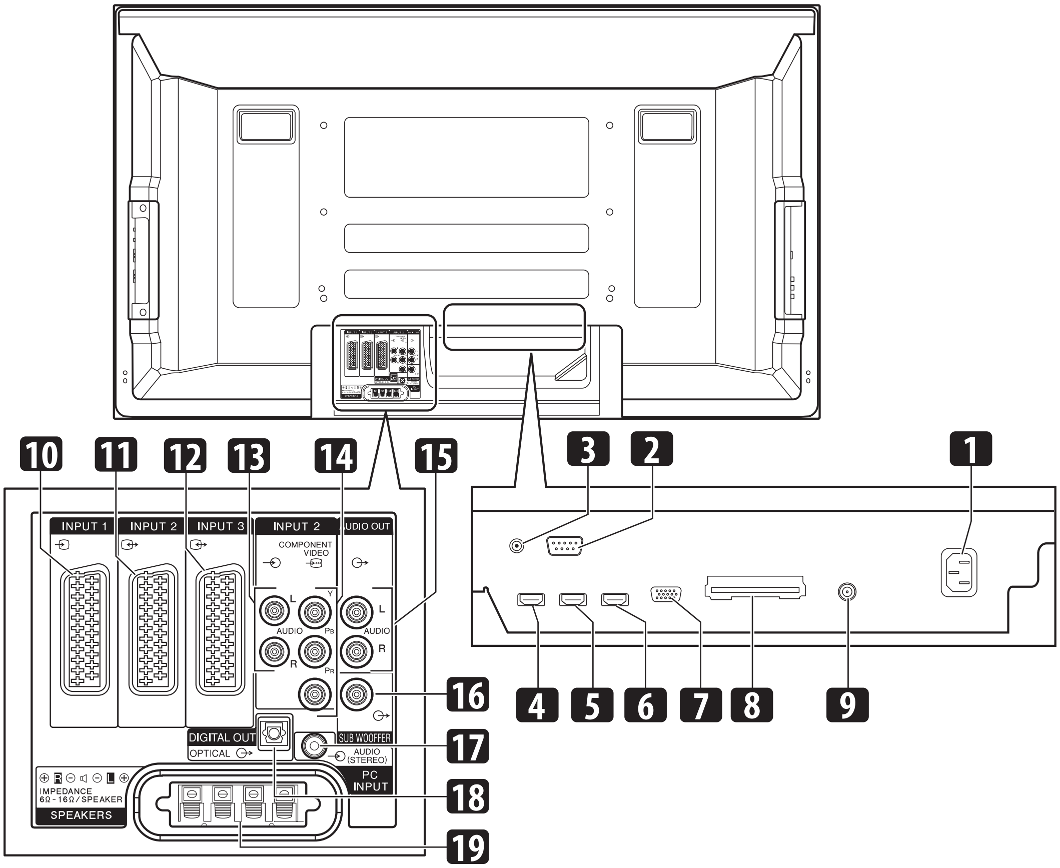

Side
11
12
13
14
15
USB
PHONES
INPUT 5
S-VIDEO
VIDEO
AUDIO
L
R
Side
STANDBY/ON
INPUT
VOLUME
+
–
CHANNEL
+
P
–
7
8
9
10
Pioneer
ON
STANDBY
TIMER
2
3
1
4
5
6

**1** ⏻ button (If the button is off, the power will not turn on even when ⏻, **0** to **9** on the remote control unit or **STANDBY/ON** on the plasma television are pressed.)
**2** POWER ON indicator
**3** STANDBY indicator
**4** TIMER indicator
- The TIMER indicator lights up when one or more DTV programmes are preset for watching or recording.

**5** Room Light Sensor
**6** Remote control sensor
**7** **STANDBY/ON** button
**8** **INPUT** button
**9** **VOLUME +/–** buttons
**10** **CHANNEL +/–** buttons
**11** USB port
**12** PHONES output terminal
**13** INPUT 5 terminal (S-VIDEO)
**14** INPUT 5 terminal (VIDEO)
**15** INPUT 5 terminals (AUDIO)

## PDP-508XD

### • Rear Section


10
11
12
13
14
15
3
2
1
INPUT 1
INPUT 2
INPUT 3
INPUT 2
AUDIO OUT
COMPONENT VIDEO
L
Y
AUDIO
PB
R
PR
L
AUDIO
R
16
DIGITAL OUT
OPTICAL
SUB WOOFER
AUDIO (STEREO)
17
PC INPUT
IMPEDANCE 6Ω - 16Ω / SPEAKER
SPEAKERS
18
19
4
5
6
7
8
9

**1** AC IN terminal
**2** RS-232C terminal (used for factory setup)
**3** CONTROL OUT terminal (supports **SR+**)
**4** INPUT 1 terminal (HDMI)
**5** INPUT 3 terminal (HDMI)
**6** INPUT 4 terminal (HDMI)
**7** PC INPUT terminal (Analogue RGB)
**8** COMMON INTERFACE slot
- For a CA Module with a smart card

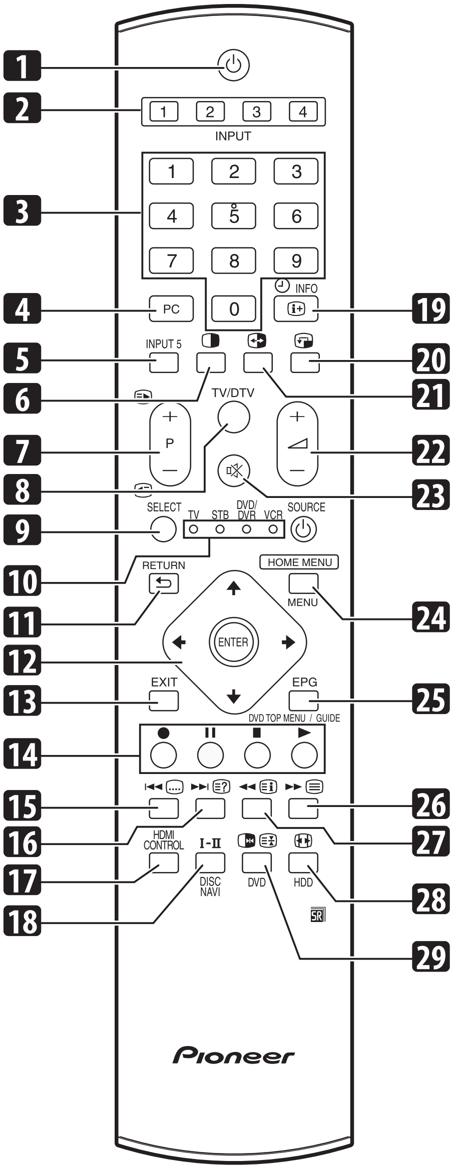
**9** ANT (Antenna) input terminal
- Power can be supplied through this terminal

**10** INPUT 1 terminal (SCART)
**11** INPUT 2 terminal (SCART)
**12** INPUT 3 terminal (SCART)
**13** INPUT 2 terminals (Audio)
**14** INPUT 2 terminals (COMPONENT VIDEO: Y, $P_B$, $P_R$)
**15** AUDIO OUT terminals
**16** SUBWOOFER output terminal
**17** PC INPUT terminal (Audio)
**18** DIGITAL OUT terminal (OPTICAL)
**19** SPEAKERS terminals (right/left)

## ■ PDP-508XD

### • Remote Control Unit

This section describes the functions of the buttons available when the TV mode has been selected by using the **SELECT** button.



**1** **⏻:** Turns on the power to the plasma television or places it into the standby mode.

**2** **INPUT:** Selects an input source of the plasma television. (“INPUT 1”, “INPUT 2”, “INPUT 3”, “INPUT 4”)

**3** **0 - 9:** TV/External input mode: Selects a channel.
Teletext mode: Selects a page.
Turns the power on when the STANDBY indicator lights red.

**4** **PC:** Selects the PC terminal as an input source.

**5** **INPUT 5:** Selects INPUT 5 as the input source of the plasma television.

**6** **◨:** Switches the screen mode among 2-screen, picture-in-picture, and single-screen.

**7** **P+/P–:** TV/External input mode: Selects a channel.

**▤▶/◀▤:** Teletext mode: Selects a page.

**8** **TV/DTV:** Switches between the TV and DTV input modes.

**9** **SELECT:** Switches the selection among TV, STB, DVD/DVR, and VCR, so that you can control other connected equipment, using the supplied remote control unit.

**10** **TV, STB, DVD/DVR, VCR:** These indicators show the current selection and status when you control other connected equipment, using the supplied remote control unit.

**11** **⮌ RETURN:** Restores the previous menu screen.

**12** **⬆/⬇/⬅/➡:** Selects a desired item on the setting screen.

**ENTER:** Executes a command.

**13** **EXIT:** Returns to the normal screen in one step.

**14** **Colour (RED/GREEN/YELLOW/BLUE):**
Teletext mode: Selects a page.

**15** **(…):** Jumps to Teletext subtitle page.
Turns subtitle on and off in DTV input mode depending on the broadcast.

**16** **▤?:** Displays hidden characters.

**17** **HDMI CONTROL:** Displays the HDMI Control menu.

**18** **I–II:** Sets the sound multiplex mode.

**19** **ℹ+ ◷ INFO:** Displays the channel information.
Displays the banner information in DTV input mode.

**20** **⧉:** Moves the location of the small screen when in the picture-in-picture mode.

**21** **⇔:** Switches between the two screens when in the 2-screen or picture-in-picture mode.

**22** **◿ +/◿ –:** Sets the volume.

**23** **🔇:** Mutes the sound.

**24** **HOME MENU:** Displays the HOME MENU screen.

**25** **EPG:** Displays the Electronic Programme Guide in DTV input mode.

**26** **▤:** Selects the Teletext mode (all TV image, all TEXT image, TV/TEXT image).

**27** **▤i:** Displays an Index page for the CEEFAX/FLOF format.
Displays a TOP Over View page for the TOP format.

**28** **⇹:** Selects the screen size.

**29** **◧:** TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.

**▤⧗ :** Teletext mode: Stops updating Teletext pages. Press again to release the hold mode.

**Note**

- When using the remote control unit, point it at the plasma television.

# 3. BASIC ITEMS FOR SERVICE

## 3.1 CHECK POINTS AFTER SERVICING

### Items to be checked after repair (PDP)

To ensure the quality of the product after repair, check the recommended items shown below:

| No. | Procedures | Item to be checked |
|---|---|---|
| 1 | Check if all the symptoms pointed out by the customer have been addressed. | The symptoms in question must not be reproduced. |
| 2 | Connect the peripheral equipment. | Connect all external peripheral equipment as originally connected and check if the connections are correct. |
| 3 | Check the video and audio. | Tune in to the stations that the customer would normally receive and check if video and audio are normal. |
| 4 | Check the buttons and controls. | Use the buttons and controls on the remote control unit and main unit and check if they operate properly. |
| 5 | Check the cabinet. | Check for any scratches or dirt that have been made or attached on the cabinet after receiving the product for repair. |

See the table below for the items to be checked regarding video and audio:

| Item to be checked regarding video | Item to be checked regarding audio |
|---|---|
| Block noise | Distortion |
| Horizontal noise | Noise |
| Dot noise | Volume too low |
| Disturbed image (video jumpiness) | Volume too high |
| Too dark | Volume fluctuating |
| Too bright | Sound interrupted |
| Mottled color | |

# 3.2 QUICK REFERENCE

## Quick Reference upon Service Visit ①
## Notes, PD/SD diagnosis, and methods for various settings

### Notes when visiting for service

#### 1. Notes when disassembling/reassembling

**① Rear case**

When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "7. DISASSEMBLY".

**② Attaching screws for the HDMI connector**

When attaching the HDMI connector after replacing the Main Assy, secure the HDMI connector manually with a screwdriver, but not with an electric screwdriver. If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

#### 2. On parts replacement

**① How to discharge before replacing the Assys**

A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:

A: Let the panel sit at least for 3 minutes after the power is turned off.

B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.

For details, see "5.6.1 PANEL DRIVE-POWER ON/OFF FUNCTION".

**② On the settings after replacement of the Assys**

Some boards need settings made after replacement of the Assys. For details, see "8. EACH SETTING AND ADJUSTMENT".

#### 3. On various settings

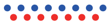
**① Setting in Factory mode**

After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

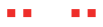
| PD/SD | | | |
|---|---|---|---|
| Item | | No. of LEDs flashing | |
| | | Red | Blue |
| Panel section | SQ_LSI | | Blue 1 |
| | Communication with the module IIC | | Blue 2 |
| | DIGITAL-RST2 | | Blue 3 |
| | Panel high temperature | | Blue 4 |
| MTB section | Audio/ Short-circuit SP terminal | | Blue 5 |
| | Communication with the Module UCOM | | Blue 6 |
| | Main 3-wire serial communication | | Blue 7 |
| | Main IIC communication | | Blue 8 |
| | Communication with the Main UCOM | | Blue 9 |
| | FAN | | Blue 10 |
| | Unit high temperature | | Blue 11 |
| | Digital Tuner communication | | Blue 12 |
| | MTB-RST2/RST4 | | Blue 13 |
| | Main EEPROM | | Blue 15 |
| POWER | | Red 2 | |
| SCAN | | Red 3 | |
| SCN-5V | | Red 4 | |
| Y-DRIVE | | Red 5 | |
| Y-DCDC | | Red 6 | |
| Y-SUS | | Red 7 | |
| ADRS | | Red 8 | |
| X-DRIVE | | Red 9 | |
| X-DCDC | | Red 10 | |
| X-SUS | | Red 11 | |
| DIG-DCDC | | Red 12 | |
| UNKNOWN | | Red 15 | |

**LED Display Information**

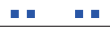
① Rewriting software



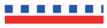
② PD (2-15)



③ SD (1-15)



④ No backup



This indication does not display all LED patterns.
For details, please refer to 5.1.1 LED DISPLAY INFORMATION.

### How to locate several items on the Factory menu

{ } : Item on the Factory menu
[ ] : Key on the remote control unit
" " : Screen indication

#### 1. Confirmation of accumulated power-on time and power-on count

Select {INFORMATION} then {HOUR METER}.
(After entering Factory mode, press [⬇] five times.)

#### 2. Confirmation of the Power-down and Shutdown histories

**① Panel system**

PD: Select {PANEL FACTORY} then {POWER DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] three times.)

SD: Select {PANEL FACTORY} then {SHUT DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] four times.)

**② MTB section**

Select {INFORMATION} then {MAIN NG}.
(After entering Factory mode, press [⬇] three times.)

#### 3. How to display the Mask indication

**① Mask indication in the panel side**

1. Select {PANEL FACTORY} then {RASTER MASK SETUP}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] 8 times.)
2. Press [ENTER/SET], then select a Mask indication, using [⬇] or [⬆].

### Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

#### 1. Digital Video Assy: Transfer of backup data

① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, then press [ENTER/SET].)

② Select {TRANSFER}, using [➡], then hold [ENTER/SET] pressed for at least 5 seconds.

③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

#### 2. MAIN Assy: Execution of FINAL SETUP.

① Select {INITIALIZE} then {FINAL SETUP}, then press [ENTER/SET]. (After entering Factory mode, press [MUTING] three times, then press [⬇] four times.)

② Select "YES", using [➡]. Then hold [ENTER/SET] pressed for at least 5 seconds.

③ After "FINAL SETUP IS COMPLETE" is displayed on the screen, turn the POWER switch of the main unit off.

#### 3. POWER SUPPLY Unit: Clearance of the accumulated power-on count and maximum temperature value

① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] six times.)

② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

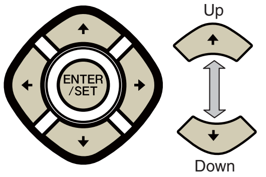
#### 4. Other Assys: Clearance of the maximum temperature value

① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] seven times.)

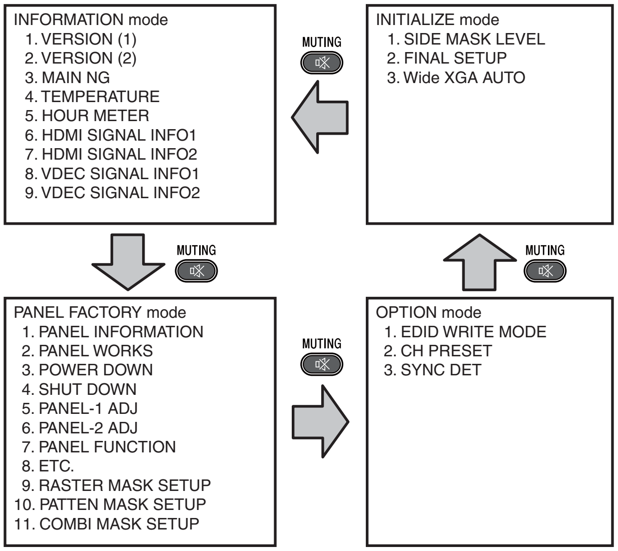
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected.

# Quick Reference upon Service Visit ②
# Mode transition and structure of layers in Service Factory mode

## Mode transition in Service Factory mode



- To shift to another mode, press [MUTING].
- To shift to another item in a specific mode, press [⬆] or [⬇].
- To shift to the next nested layer below for an item with a "(+)" indication, press [ENTER/SET]. To return to the next nested layer above, also press [ENTER/SET].



INFORMATION mode
1. VERSION (1)
2. VERSION (2)
3. MAIN NG
4. TEMPERATURE
5. HOUR METER
6. HDMI SIGNAL INFO1
7. HDMI SIGNAL INFO2
8. VDEC SIGNAL INFO1
9. VDEC SIGNAL INFO2

INITIALIZE mode
1. SIDE MASK LEVEL
2. FINAL SETUP
3. Wide XGA AUTO

PANEL FACTORY mode
1. PANEL INFORMATION
2. PANEL WORKS
3. POWER DOWN
4. SHUT DOWN
5. PANEL-1 ADJ
6. PANEL-2 ADJ
7. PANEL FUNCTION
8. ETC.
9. RASTER MASK SETUP
10. PATTEN MASK SETUP
11. COMBI MASK SETUP

OPTION mode
1. EDID WRITE MODE
2. CH PRESET
3. SYNC DET

## Structure of Layers in Service Factory Mode

| | |
|---|---|
| INFORMATION mode | |
| 1. VERSION (1) | The software versions for each microcomputer |
| 2. VERSION (2) | The Flash memory versions for each device |
| 3. MAIN NG | The shutdown message ID/event times<br>(Going Clear mode by [ENTER/SET] key) |
| 3-1. CLEAR | Select Yes by [➡] key, ➡ pressing and hold [ENTER/SET] key |
| 4. TEMPERATURE | The temperature/FAN rotating status/Room light sensor |
| 5. HOUR METER | The HOUR METER/P-COUNT information |
| 6. HDMI SIGNAL INFO 1 | The information of HDMI information files |
| 7. HDMI SIGNAL INFO 2 | The information of HDMI information files |
| 8. VDEC SIGNAL INFO 1 | The signal information of VDEC |
| 9. VDEC SIGNAL INFO 2 | The signal information of VDEC |
| PANEL FACTORY mode | Refer to [PANEL FACTORY MODE] |
| OPTION mode | |
| 1. EDID WRITE MODE | For factory use |
| 2. CH PRESET | For production line use |
| 3. SYNC DET | For technical analysis |
| INITIALIZE mode | |
| 1. SIDE MASK LEVEL | For factory use |
| 1-1. SIDE MASK LEVEL | |
| 2. FINAL SETUP | Set to Factory default settings (it should perform after replacing a MAIN Assy) |
| 2-1. DATA RESET | |
| 3. Wide XGA AUTO | For technical analysis |

## Structure of Layers in Panel Factory Mode 1

| | |
|---|---|
| 1. PANEL INFORMATION | Version indication of the panel |
| 2. PANEL WORKS | Indications of the accumulated power-on time, pulse-meter count, and power-on count of the panel |
| 3. POWER DOWN | Indication of the Power-down history |
| 4. SHUT DOWN | Indication of the Shutdown history |
| 5. PANEL-1 ADJ (+) | |
| 1. VOL SUS | Settings required after replacement of the panel |
| 2. VOL OFFSET | |
| • • • • • | |
| 8. VOL YNOFS4 | |
| 9. RESET1ST_KSB | Modification not required because these items are basically for factory presetting |
| 10. RESET2ND_KSB | |
| • • • • • | |
| 23. YSTL_FMR_HZ | |
| 24. SUS FREQ | For AM noise prevention (Depending on the mode, brightness of the screen changes.)<br>For confirmation of the result of the setting change, the unit must be turned off then back on again. |
| 6. PANEL-2 ADJ (+) | |
| 1. R-HIGH | Parameters for the WB adjustment of the panel, which are required during adjustment after panel replacement |
| 2. G-HIGH | |
| 3 .B-HIGH | |
| 4. R-LOW | |
| 5. G-LOW | |
| 6. B-LOW | |
| 7. ABL | Setting of the power consumption. A setting table is available for each vertical signal. |

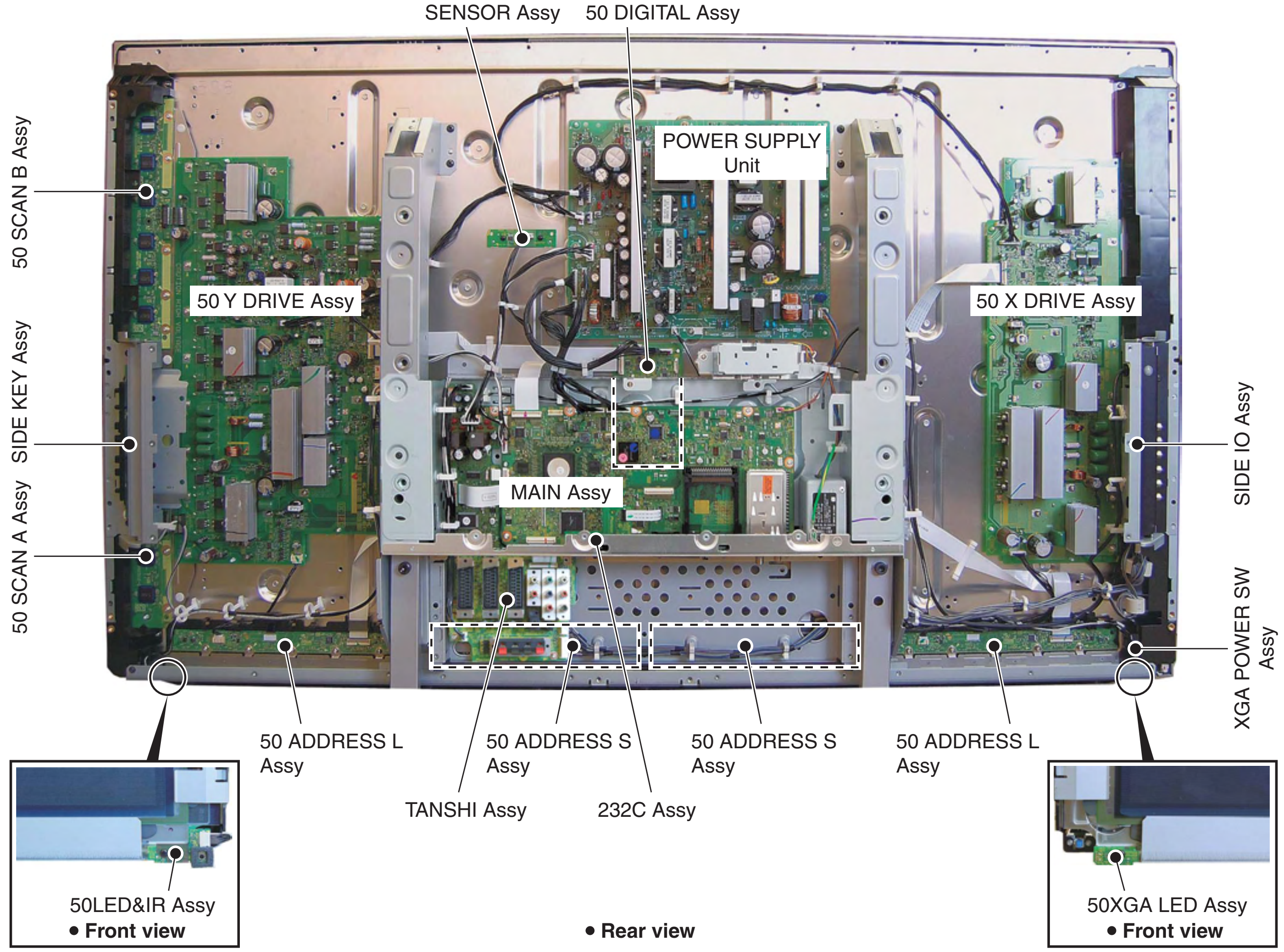
To "Structure of Layers in Panel Factory Mode 2"

## Structure of Layers in Panel Factory Mode 2

| | |
|---|---|
| 7. PANEL FUNCTION (+) | |
| 1. R-LEVEL | Items for use by engineers |
| 2. G-LEVEL | |
| 3. B-LEVEL | |
| 4. ADDRESS L1 | |
| 5. ADDRESS L2 | |
| • • • • • | |
| 11. ADDRESS U4 | |
| 12. STK MODE | |
| 8. ETC (+) | |
| 1. BACKUP DATA | For transferring backup data (after replacement of the DIGITAL Assy) |
| 2. DIGITAL EEPROM | To clear data of the digital video |
| 3. PD INFO. | For clearance of data for the corresponding items. The clearing method is the same: Select "CLEAR", using [➡], then hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, {ETC} is automatically selected. |
| 4. SD INFO. | |
| 5. HR-MTR INFO. | |
| 6. PM/B1-B5 | |
| 7. P COUNT INFO. | |
| 8. MAX TEMP. | |
| 9. RASTER MASK SETUP (+) | |
| 1. MASK OFF | For use while Raster Mask (full mask) is displayed. Use [⬆] or [⬇] to select the type of mask. |
| 2. RST MASK 01 | |
| • • • • • | |
| 26. RST MASK 25 | |
| 10. PATTEN MASK SETUP (+) | |
| 1. MASK OFF | For use while Pattern Mask is displayed. Use [⬆] or [⬇] to select the type of mask. |
| 2. PTN MASK 01 | |
| • • • • • | |
| 50. PTN MASK 49 | |
| 11. COMBI MASK SETUP (+) | |
| 1. MASK OFF | For use while Combination Mask is displayed. Use [⬆] or [⬇] to select the type of mask. |
| 2. CMB MASK 01 | |
| • • • • • | |
| 18. CMB MASK 17 | |

## 3.3 PCB LOCATION

- This photo. is PDP-5080XD model.


SENSOR Assy
50 DIGITAL Assy
POWER SUPPLY Unit
50 SCAN B Assy
SIDE KEY Assy
50 SCAN A Assy
50 Y DRIVE Assy
50 X DRIVE Assy
MAIN Assy
SIDE IO Assy
XGA POWER SW Assy
50 ADDRESS L Assy
50 ADDRESS S Assy
50 ADDRESS S Assy
50 ADDRESS L Assy
TANSHI Assy
232C Assy
50LED&IR Assy
50XGA LED Assy

- Front view
- Rear view
- Front view

**Note:**
**The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.**

## LIST OF ASSEMBLIES

| Mark | No. | Description | Part No. |
|---|---|---|---|
| NSP | | 50 ADDRESS L ASSY | AWW1264 |
| NSP | | 50 ADDRESS S ASSY | AWW1265 |
| NSP | | 50 SCAN A ASSY | AWW1268 |
| | | └ IC2801 - IC2806 | SN755875PZT-P |
| NSP | | 50 SCAN B ASSY | AWW1269 |
| | | └ IC2901 - IC2906 | SN755875PZT-P |
| | | 50 X DRIVE ASSY | AWV2447 |
| | | 50 Y DRIVE ASSY | AWW1260 |
| | | XGA POWER SW ASSY | AWW1261 |
| | | 50 DIGITAL ASSY | AWW1270 |
| | | SENSOR ASSY | AWW1272 |
| ⚠ | | MAIN ASSY (PDP-5080XA) | AWV2463 |
| ⚠ | | MAIN ASSY (PDP-5080XD) | AWV2462 |
| ⚠ | | MAIN ASSY (PDP-508XD) | AWV2461 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | | TANSHI ASSY (PDP-5080XA) | AWW1252 |
| | | TANSHI ASSY (PDP-5080XD) | AWW1250 |
| | | TANSHI ASSY (PDP-508XD) | AWW1248 |
| | | SIDE IO ASSY | AWW1253 |
| | | 232C ASSY | AWW1254 |
| | | 50XGA LED ASSY | AWW1280 |
| | | 50LED&IR ASSY (PDP-5080XA, XD) | AWW1283 |
| | | 50LED&IR ASSY (PDP-508XD) | AWW1281 |
| | | SIDE KEY ASSY | AWW1286 |
| ⚠ | | POWER SUPPLY UNIT | AXY1157 |
| | | PDP SERVICE ASSY 508 | AWU1277 |

# 3.4 CLEANING

| Name | Part No. | Remarks |
|---|---|---|
| Cleaning liquid | GEM1004 | Used to fan cleaning.<br>Refer to “10.4 CHASSIS SECTION (1/2)”. |
| Cleaning paper | GED-008 | |

A

B

C

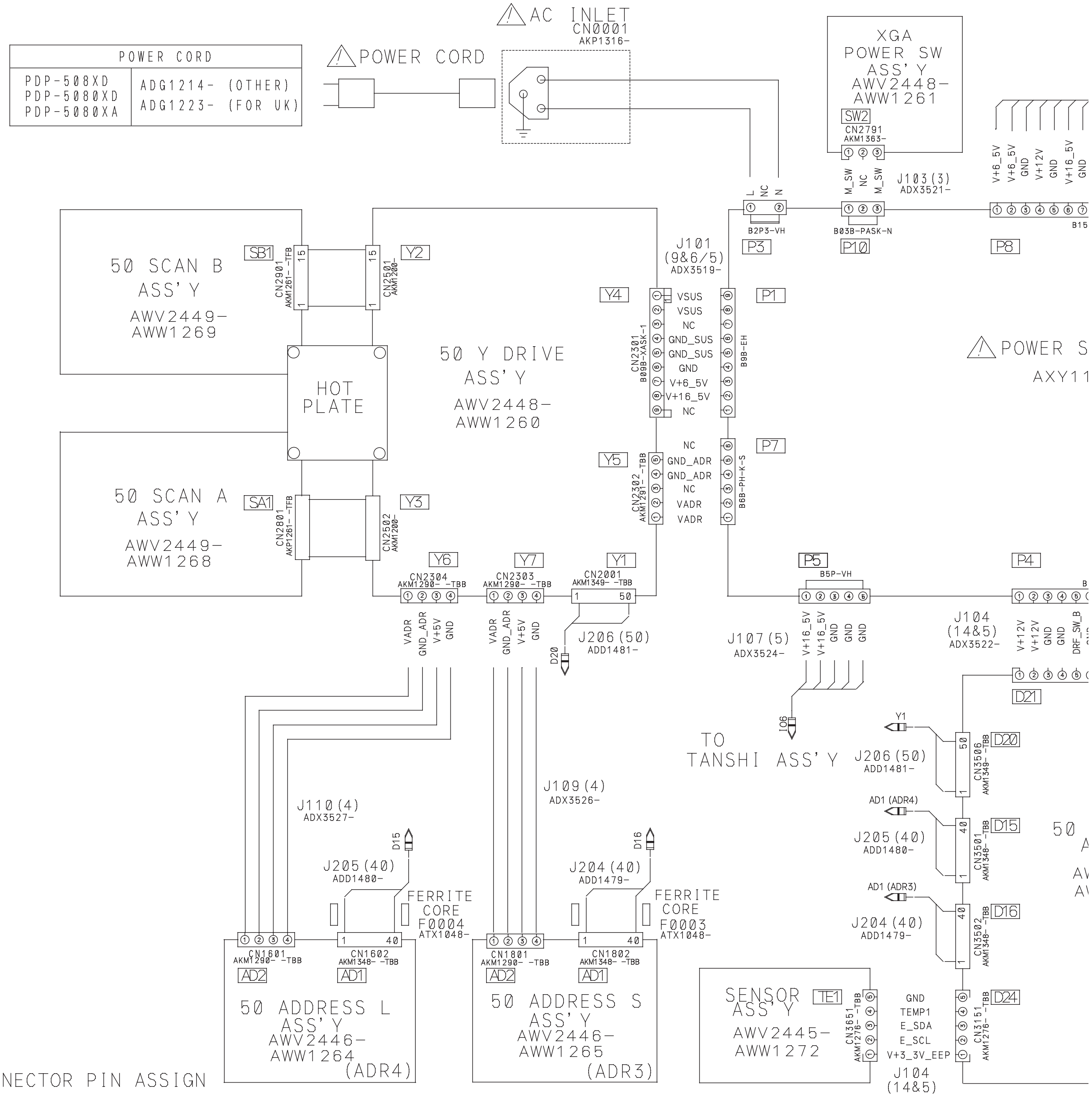
D

E

F

# 4. BLOCK DIAGRAM

## 4.1 OVERALL WIRING DIAGRAM (1/2)


POWER CORD
PDP-508XD
PDP-5080XD
PDP-5080XA
ADG1214- (OTHER)
ADG1223- (FOR UK)
POWER CORD
AC INLET
CN0001
AKP1316-
XGA POWER SW ASS'Y
AWV2448-
AWW1261
SW2
CN2791
AKM1363-
L NC N
B2P3-VH
P3
M_SW NC M_SW
B03B-PASK-N
P10
J103 (3)
ADX3521-
V+6_5V V+6_5V GND V+12V GND V+16_5V GND
B15
P8
J101
(9&6/5)
ADX3519-
50 SCAN B ASS'Y
AWV2449-
AWW1269
SB1
CN2901
AKM1261- -TFB
15
1
CN2501
AKM1200-
Y2
HOT PLATE
50 Y DRIVE ASS'Y
AWV2448-
AWW1260
Y4
CN2301
B09B-XASK-1
VSUS
VSUS
NC
GND_SUS
GND_SUS
GND
V+6_5V
V+16_5V
NC
B9B-EH
P1
POWER S
AXY11
Y5
CN2302
AKM1291- -TBB
NC
GND_ADR
GND_ADR
NC
VADR
VADR
B6B-PH-K-S
P7
50 SCAN A ASS'Y
AWV2449-
AWW1268
SA1
CN2801
AKP1261- -TFB
CN2502
AKM1200-
Y3
Y6
CN2304
AKM1290- -TBB
VADR GND_ADR V+5V GND
Y7
CN2303
AKM1290- -TBB
VADR GND_ADR V+5V GND
Y1
CN2001
AKM1349- -TBB
1 50
D20
J206 (50)
ADD1481-
P5
B5P-VH
J107 (5)
ADX3524-
V+16_5V V+16_5V GND GND GND
I06
TO TANSHI ASS'Y
P4
J104
(14&5)
ADX3522-
V+12V V+12V GND GND DRF_SW_B
D21
Y1
CN3506
AKM1349- -TBB
D20
J206 (50)
ADD1481-
AD1 (ADR4)
CN3501
AKM1348- -TBB
D15
J205 (40)
ADD1480-
AD1 (ADR3)
CN3502
AKM1348- -TBB
D16
J204 (40)
ADD1479-
50
J110 (4)
ADX3527-
J109 (4)
ADX3526-
D15
J205 (40)
ADD1480-
FERRITE CORE
F0004
ATX1048-
D16
J204 (40)
ADD1479-
FERRITE CORE
F0003
ATX1048-
CN1601
AKM1290- -TBB
CN1602
AKM1348- -TBB
1 40
AD2
AD1
50 ADDRESS L ASS'Y
AWV2446-
AWW1264
(ADR4)
CN1801
AKM1290- -TBB
CN1802
AKM1348- -TBB
AD2
AD1
50 ADDRESS S ASS'Y
AWV2446-
AWW1265
(ADR3)
SENSOR ASS'Y
TE1
AWV2445-
AWW1272
CN3651
AKM1276- -TBB
GND
TEMP1
E_SDA
E_SCL
V+3_3V_EEP
CN3151
AKM1276- -TBB
D24
J104
(14&5)
ADX3522-

CONNECTOR PIN ASSIGN

CN3501 D15 → CN1602 AD1
CN3502 D16 → CN1802 AD1
CN3503 D17 → CN1802 AD1
CN3504 D18 → CN1602 AD1

1→40. NC
2→39. ADR_PD
3→38. PSIZE
4→37. GND
5→36. V+8V
6→35. V+8V
7→34. GND
8→33. GND
9→32. NC
10→31. AN
11→30. AP
12→29. NC
13→28. GND
14→27. NC
15→26. BN
16→25. BP
17→24. NC
18→23. GND
19→22. NC
20→21. CN
21→20. CP
22→19. NC
23→18. GND
24→17. NC
25→16. CLKN
26→15. CLKP
27→14. NC
28→13. GND
29→12. NC
30→11. DN
31→10. DP
32→ 9. NC
33→ 8. GND
34→ 7. GND
35→ 6. V+3_3V_D
36→ 5. V+3_3V_D
37→ 4. GND
38→ 3. NC
39→ 2. LS2
40→ 1. GND

CN2502 Y3
↓
CN2801 SA1

1. VH
2. VH
3. NC
4. NC
5. GNDH
6. SI_R
7. SI_H
8. CLR
9. OC2
10. OC1
11. CLK
12. LE
13. GNDH
14. GNDH_R
15. IC5V

CN2501 Y2
↓
CN2901 SB1

1. VH
2. VH
3. NC
4. NC
5. GNDH
6. SI_R
7. SI_L
8. CLR
9. OC2
10. OC1
11. CLK
12. LE
13. GNDH
14. GNDH_R
15. IC5V

CN3505 D19 → CN1001 X1

1→40. XCN_PD
2→39. NC
3→38. GND
4→37. XSUS_B
5→36. GND
6→35. XSUS_U
7→34. GND
8→33. XSUS_D
9→32. GND
10→31. XSUS_G
11→30. GND
12→29. XPRST
13→28. GND
14→27. XKOFS1
15→26. GND
16→25. XKOFS2
17→24. GND
18→23. XSOFT_D
19→22. GND
20→21. SUS_MUTE
21→20. GND
22→19. XKOFS1_ADJ
23→18. XKOFS2_ADJ
24→17. GND
25→16. XDRV_PD
26→15. XDD_PD
27→14. PSW2
28→13. GND
29→12. XRsv_2
30→11. XRsv_1
31→10. NC
32→ 9. NC
33→ 8. NC
34→ 7. NC
35→ 6. NC
36→ 5. NC
37→ 4. NC
38→ 3. NC
39→ 2. NC
40→ 1. XSUS_PD

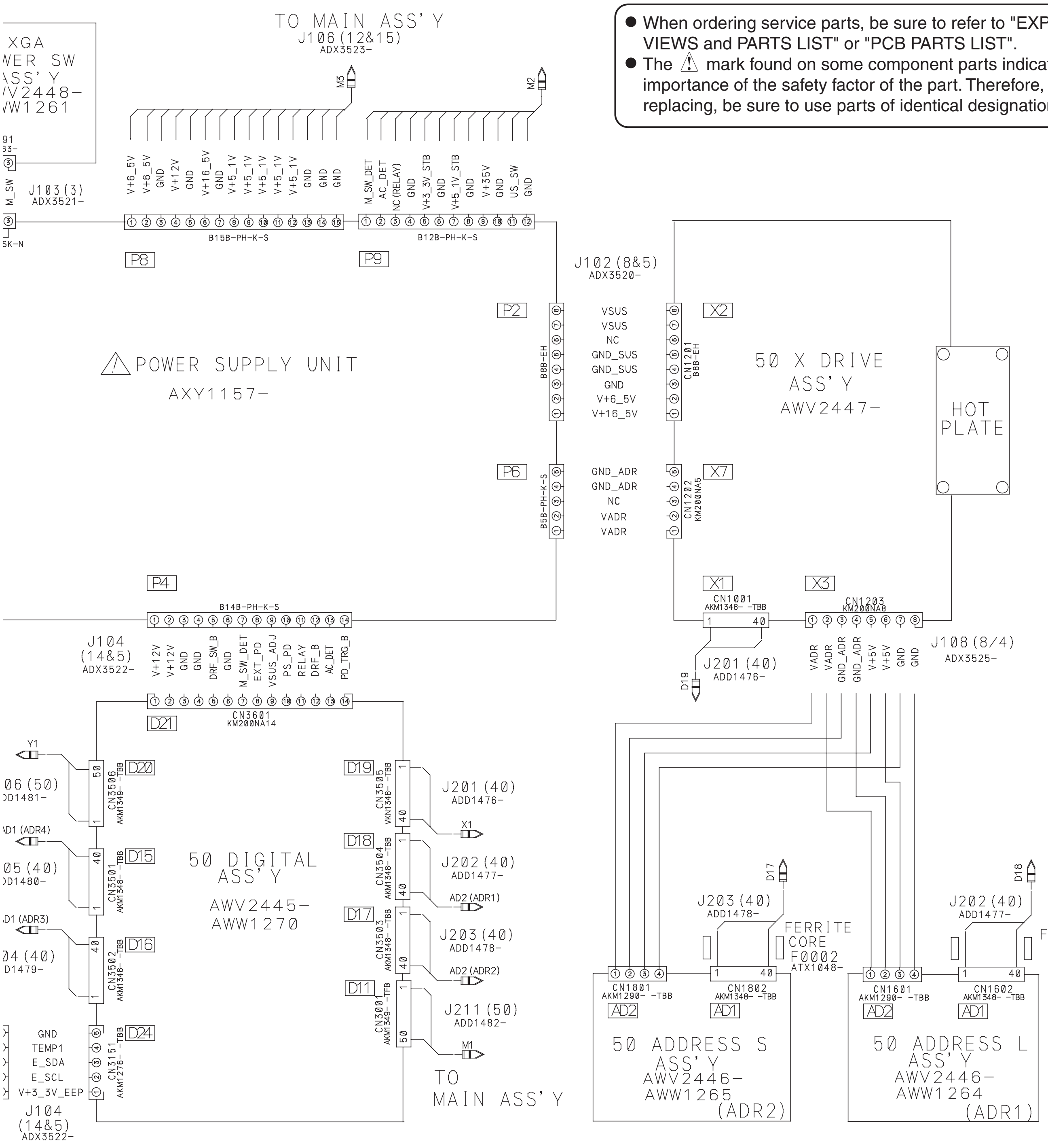
CN3506 D20 → CN2001 Y1

1→50. GND
2→49. SCN5V_PD
3→48. SI
4→47. GND
5→46. CLR
6→45. CLK
7→44. GND
8→43. LE
9→42. OC2
10→41. OC1
11→40. GND
12→39. YSUS_B
13→38. YSUS_U
14→37. GND
15→36. YSUS_D
16→35. YSUS_G
17→34. GND
18→33. YPR-U
19→32. SUS_MUTE
20→31. GND
21→30. YSUS_MSK_H
22→29. YSUS_MSK_L
23→28. GND
24→27. YKNOFS1
25→26. YKNOFS2
26→25. YKNOFS3
27→24. YKNOFS4
28→23. GND
29→22. YNOFS
30→21. YRST_D
31→20. YSOFT_G
32→19. YSOFT_D
33→18. GND
34→17. VOFS_ADJ
35→16. VYPRST_ADJ
36→15. GND
37→14. NC
38→13. VKNOFS1_2_ADJ
39→12. VKNOFS3_ADJ
40→11. VKNOFS4_ADJ
41→10. GND
42→ 9. YRsv1
43→ 8. YRsv2
44→ 7. YRsv3
45→ 6. GND
46→ 5. YDD_PD
47→ 4. YSUS_PD
48→ 3. SCAN_PD
49→ 2. YDRV_PD
50→ 1. PSW2

CN3001 D11 →

1→50. GND
2→49. LVDS_ON
3→48. REQ_MD
4→47. RXD_MD
5→46. TXD_MD
6→45. GND
7→44. GND
8→43. LVDS_E1+
9→42. LVDS_E1−
10→41. GND
11→40. LVDS_D1+
12→39. LVDS_D1−
13→38. GND
14→37. LVDS_CLK1+
15→36. LVDS_CLK1−
16→35. GND
17→34. LVDS_C1+
18→33. LVDS_C1−
19→32. GND
20→31. LVDS_B1+
21→30. LVDS_B1−
22→29. GND
23→28. LVDS_A1+
24→27. LVDS_A1−
25→26. GND

- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.


TO MAIN ASS'Y
J106 (12&15)
ADX3523-
M3
M2
XGA
WER SW
ASS'Y
V2448-
W1261
J103 (3)
ADX3521-
M_SW
V+6_5V
V+6_5V
GND
V+12V
GND
V+16_5V
GND
V+5_1V
V+5_1V
V+5_1V
V+5_1V
GND
GND
GND
M_SW_DET
AC_DET
NC (RELAY)
GND
V+3_3V_STB
GND
V+5_1V_STB
GND
V+35V
GND
US_SW
GND
B15B-PH-K-S
B12B-PH-K-S
P8
P9
J102 (8&5)
ADX3520-
P2
X2
B8B-EH
CN1201
B8B-EH
VSUS
VSUS
NC
GND_SUS
GND_SUS
GND
V+6_5V
V+16_5V
⚠ POWER SUPPLY UNIT
AXY1157-
50 X DRIVE
ASS'Y
AWV2447-
HOT
PLATE
P6
X7
B5B-PH-K-S
CN1202
KM200NA5
GND_ADR
GND_ADR
NC
VADR
VADR
P4
X1
X3
B14B-PH-K-S
CN1001
AKM1348- -TBB
CN1203
KM200NA8
J104
(14&5)
ADX3522-
V+12V
V+12V
GND
GND
DRF_SW_B
GND
M_SW_DET
EXT_PD
VSUS_ADJ
PS_PD
RELAY
DRF_B
AC_DET
PD_TRG_B
J201 (40)
ADD1476-
D19
J108 (8/4)
ADX3525-
VADR
VADR
GND_ADR
GND_ADR
V+5V
V+5V
GND
GND
CN3601
KM200NA14
D21
Y1
06 (50)
DD1481-
D20
CN3506
AKM1349- -TBB
D1 (ADR4)
05 (40)
DD1480-
D15
CN3501
AKM1348- -TBB
D1 (ADR3)
04 (40)
D1479-
D16
CN3502
AKM1348- -TBB
50 DIGITAL
ASS'Y
AWV2445-
AWW1270
D19
CN3505
VKN1348- -TBB
J201 (40)
ADD1476-
X1
D18
CN3504
AKM1348- -TBB
J202 (40)
ADD1477-
AD2 (ADR1)
D17
CN3503
AKM1348- -TBB
J203 (40)
ADD1478-
AD2 (ADR2)
D11
CN3001
AKM1349- -TFB
J211 (50)
ADD1482-
M1
TO
MAIN ASS'Y
GND
TEMP1
E_SDA
E_SCL
V+3_3V_EEP
D24
CN3151_TBB
AKM1276-
J104
(14&5)
ADX3522-
D17
J203 (40)
ADD1478-
FERRITE
CORE
F0002
ATX1048-
CN1801
AKM1290- -TBB
CN1802
AKM1348- -TBB
AD2
AD1
50 ADDRESS S
ASS'Y
AWV2446-
AWW1265
(ADR2)
D18
J202 (40)
ADD1477-
FERRITE
CORE
F0001
ATX1048-
CN1601
AKM1290- -TBB
CN1602
AKM1348- -TBB
AD2
AD1
50 ADDRESS L
ASS'Y
AWV2446-
AWW1264
(ADR1)

01 Y1

NOFS3
NOFS4
D
OFS
ST_D
OFT_G
OFT_D
D
FS_ADJ
PRST_ADJ
D
NOFS1_2_ADJ
NOFS3_ADJ
NOFS4_ADJ
D
sv1
sv2
sv3
D
D_PD
US_PD
AN_PD
RV_PD
W2

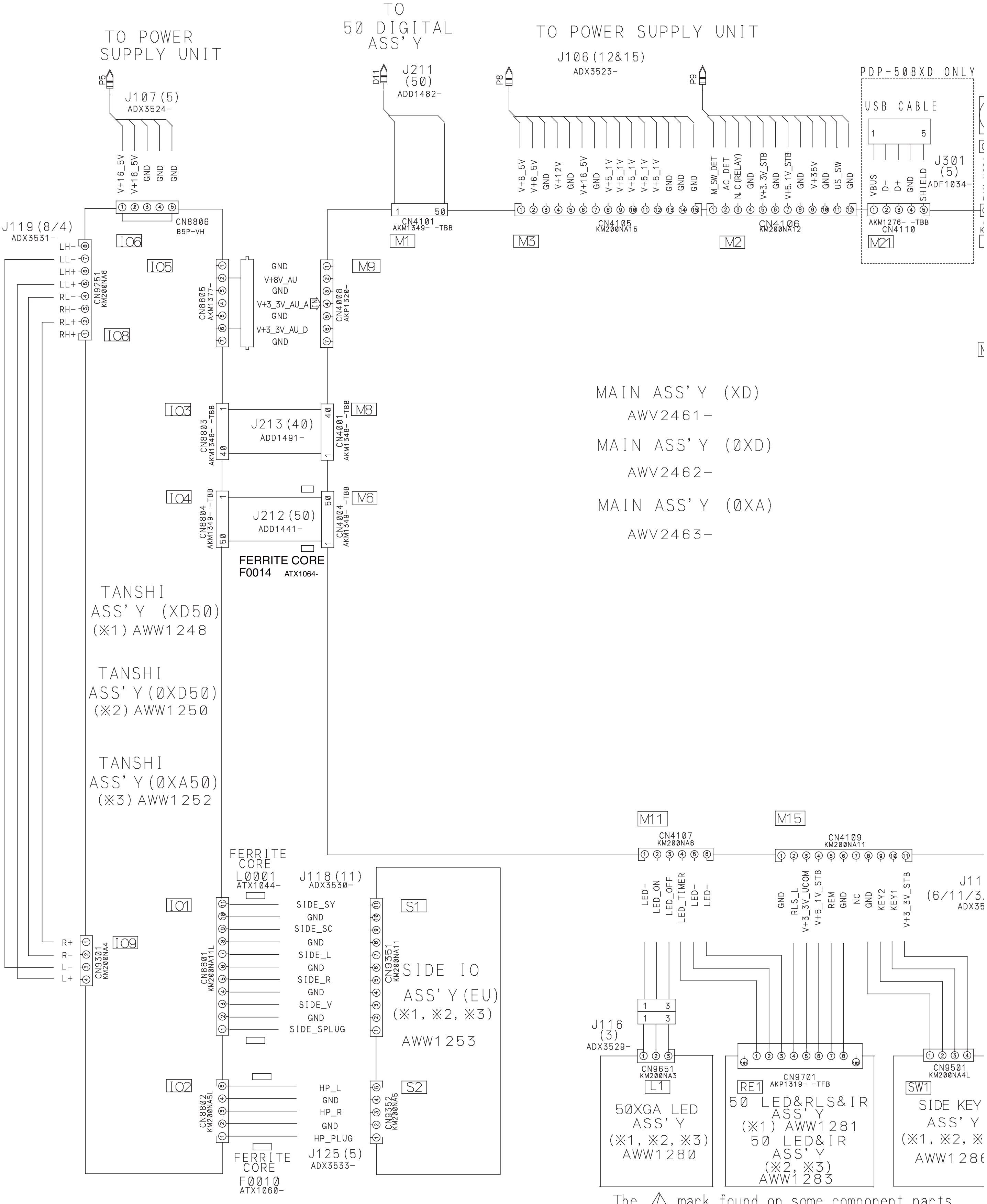
CN3001 D11 → CN4101 M1

1→50. GND
2→49. LVDS_ON
3→48. REQ_MD
4→47. RXD_MD
5→46. TXD_MD
6→45. GND
7→44. GND
8→43. LVDS_E1+
9→42. LVDS_E1-
10→41. GND
11→40. LVDS_D1+
12→39. LVDS_D1-
13→38. GND
14→37. LVDS_CLK1+
15→36. LVDS_CLK1-
16→35. GND
17→34. LVDS_C1+
18→33. LVDS_C1-
19→32. GND
20→31. LVDS_B1+
21→30. LVDS_B1-
22→29. GND
23→28. LVDS_A1+
24→27. LVDS_A1-
25→26. GND
26→25. GND
27→24. LVDS_E0+
28→23. LVDS_E0-
29→22. GND
30→21. LVDS_D0+
31→20. LVDS_D0-
32→19. GND
33→18. LVDS_CLK0+
34→17. LVDS_CLK0-
35→16. GND
36→15. LVDS_C0+
37→14. LVDS_C0-
38→13. GND
39→12. LVDS_B0+
40→11. LVDS_B0-
41→10. GND
42→ 9. LVDS_A0+
43→ 8. LVDS_A0-
44→ 7. GND
45→ 6. GND
46→ 5. MSEL
47→ 4. RELAY2
48→ 3. V+3_3V_UCOM
49→ 2. MODE
50→ 1. GND

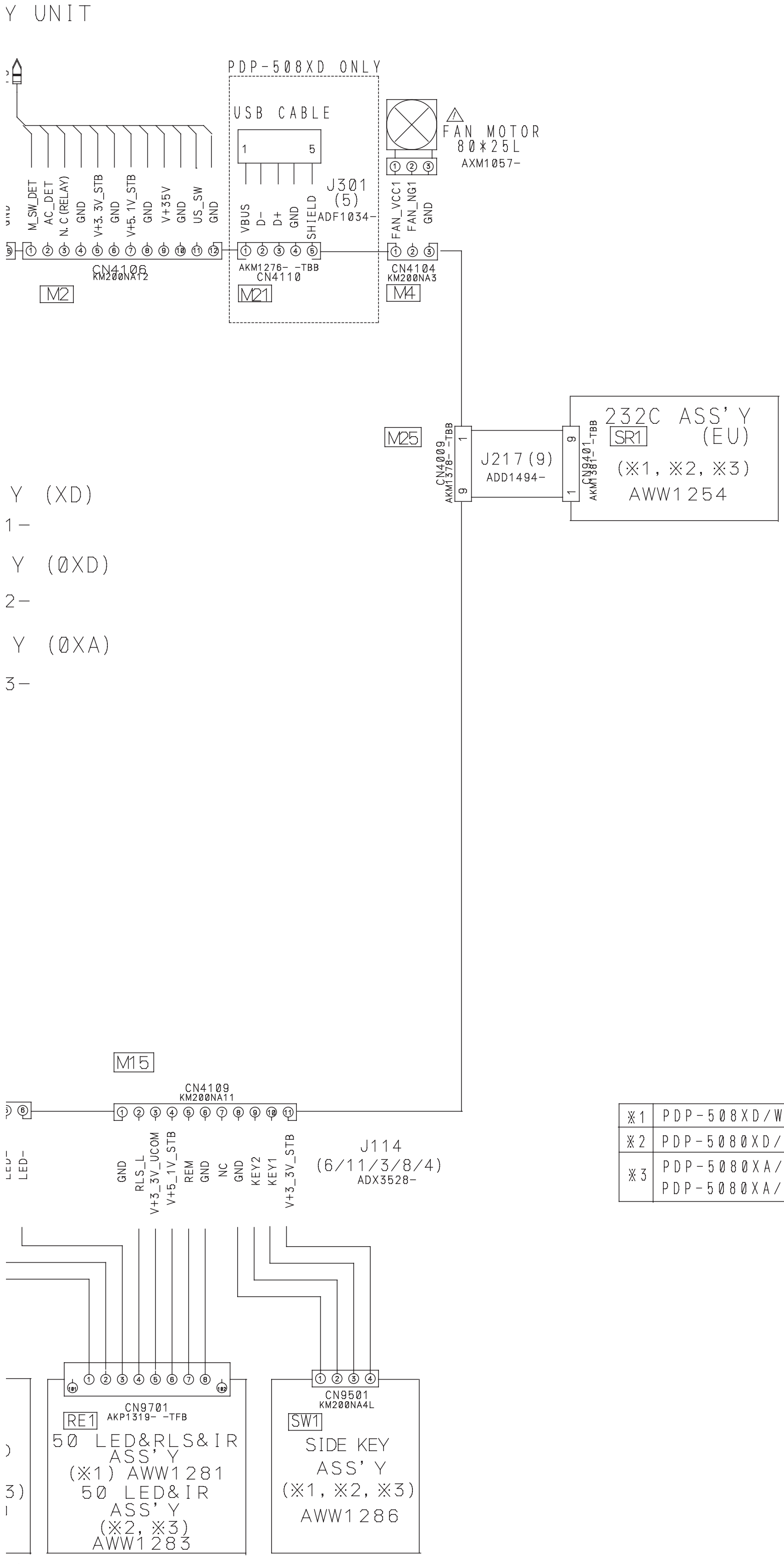
The ⚠ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.

OVERALL DIAGRAM
PDP-508XD
PDP-5080XD
PDP-5080XA

# 4.2 OVERALL WIRING DIAGRAM (2/2)


A
B
C
D
E
F
TO POWER SUPPLY UNIT
P5
J107(5)
ADX3524-
V+16_5V
V+16_5V
GND
GND
GND
CN8806
B5P-VH
IO6
TO 50 DIGITAL ASS'Y
D11
J211 (50)
ADD1482-
CN4101
AKM1349- -TBB
M1
TO POWER SUPPLY UNIT
J106(12&15)
ADX3523-
P8
V+6_5V
V+6_5V
GND
V+12V
GND
V+16_5V
GND
V+5_1V
V+5_1V
V+5_1V
V+5_1V
GND
GND
GND
CN4105
KM200NA15
M3
P9
M_SW_DET
AC_DET
N.C(RELAY)
GND
V+3.3V_STB
GND
V+5.1V_STB
GND
V+35V
GND
US_SW
GND
CN4106
KM200NA12
M2
PDP-508XD ONLY
USB CABLE
1
5
VBUS
D-
D+
GND
SHIELD
J301 (5)
ADF1034-
AKM1276- -TBB
CN4110
M21
J119(8/4)
ADX3531-
LH-
LL-
LH+
LL+
RL-
RH-
RL+
RH+
CN9251
KM200NA8
IO5
IO8
CN8805
AKM1377-
GND
V+8V_AU
GND
V+3_3V_AU_A
GND
V+3_3V_AU_D
GND
CN4008
AKP1320-
M9
IO3
CN8803
AKM1348- -TBB
J213(40)
ADD1491-
CN4001
AKM1348- -TBB
M8
IO4
CN8804
AKM1349- -TBB
J212(50)
ADD1441-
CN4004
AKM1349- -TBB
M6
FERRITE CORE
F0014 ATX1064-
MAIN ASS'Y (XD)
AWV2461-
MAIN ASS'Y (0XD)
AWV2462-
MAIN ASS'Y (0XA)
AWV2463-
TANSHI ASS'Y (XD50)
(※1) AWW1248
TANSHI ASS'Y(0XD50)
(※2) AWW1250
TANSHI ASS'Y(0XA50)
(※3) AWW1252
FERRITE CORE
L0001
ATX1044-
J118(11)
ADX3530-
IO1
CN8801
KM200NA11L
SIDE_SY
GND
SIDE_SC
GND
SIDE_L
GND
SIDE_R
GND
SIDE_V
GND
SIDE_SPLUG
CN9351
KM200NA11
S1
SIDE IO ASS'Y(EU)
(※1, ※2, ※3)
AWW1253
R+
R-
L-
L+
CN9301
KM200NA4
IO9
IO2
CN8802
KM200NA5L
HP_L
GND
HP_R
GND
HP_PLUG
CN9352
KM200NA5
S2
FERRITE CORE
F0010
ATX1060-
J125(5)
ADX3533-
M11
CN4107
KM200NA6
LED-
LED_ON
LED_OFF
LED_TIMER
LED-
LED-
M15
CN4109
KM200NA11
GND
RLS_L
V+3_3V_UCOM
V+5_1V_STB
REM
GND
NC
GND
KEY2
KEY1
V+3_3V_STB
J11
(6/11/3
ADX35
J116 (3)
ADX3529-
CN9651
KM200NA3
L1
50XGA LED ASS'Y
(※1, ※2, ※3)
AWW1280
CN9701
AKP1319- -TFB
RE1
50 LED&RLS&IR ASS'Y
(※1) AWW1281
50 LED&IR ASS'Y
(※2, ※3)
AWW1283
CN9501
KM200NA4L
SW1
SIDE KEY ASS'Y
(※1, ※2, ※
AWW128

The ⚠ mark found on some component parts
should be replaced with same parts
(safety regulation authorized) of identical de


Y UNIT
PDP-508XD ONLY
USB CABLE
1
5
J301
(5)
ADF1034-
FAN MOTOR
80*25L
AXM1057-
M_SW_DET
AC_DET
N.C (RELAY)
GND
V+3.3V_STB
GND
V+5.1V_STB
GND
V+35V
GND
US_SW
GND
VBUS
D-
D+
GND
SHIELD
FAN_VCC1
FAN_NG1
GND
CN4106
KM200NA12
M2
AKM1276- -TBB
CN4110
M21
CN4104
KM200NA3
M4
M25
CN4009
AKM1378- -TBB
J217(9)
ADD1494-
CN9401
AKM1381- -TBB
232C ASS'Y
SR1
(EU)
(※1, ※2, ※3)
AWW1254
Y (XD)
1-
Y (0XD)
2-
Y (0XA)
3-
M15
CN4109
KM200NA11
LED-
GND
RLS_L
V+3_3V_UCOM
V+5_1V_STB
REM
GND
NC
GND
KEY2
KEY1
V+3_3V_STB
J114
(6/11/3/8/4)
ADX3528-
CN9701
AKP1319- -TFB
RE1
50 LED&RLS&IR ASS'Y
(※1) AWW1281
50 LED&IR ASS'Y
(※2, ※3)
AWW1283
CN9501
KM200NA4L
SW1
SIDE KEY ASS'Y
(※1, ※2, ※3)
AWW1286

rk found on some component parts
replaced with same parts
gulation authorized) of identical designation.

| | | |
|---|---|---|
| ※1 | PDP-508XD/WYVIXK5 | AWV2481- |
| ※2 | PDP-5080XD/WYVIXK5 | AWV2483- |
| ※3 | PDP-5080XA/WYVIXK5<br>PDP-5080XA/WYV5 | AWV2485- |

## CONNECTOR PIN ASSIGN

CN4004 M6 → CN8804 IO4

1→50. GND
2→49. TEMP2
3→48. V+3_3V_UCOM
4→47. SIDE_SPLUG
5→46. SIDE_S2
6→45. SIDE_V
7→44. GND
8→43. SIDE_SY
9→42. GND
10→41. SIDE_SC
11→40. GND
12→39. INPUT1_V
13→38. GND
14→37. SCART1_OUT_V
15→36. GND
16→35. SCART2_OUT_V
17→34. SCART3_OUT_V
18→33. GND
19→32. INPUT2_VSY
20→31. GND
21→30. INPUT2_SC
22→29. GND
23→28. INPUT3_VSY
24→27. GND
25→26. INPUT3_SC
26→25. GND
27→24. INPUT2_Y
28→23. GND
29→22. INPUT2_PB
30→21. GND
31→20. INPUT2_PR
32→19. GND
33→18. INPUT1_G
34→17. GND
35→16. INPUT1_B
36→15. GND
37→14. INPUT1_R
38→13. GND
39→12. INPUT3_G
40→11. GND
41→10. INPUT3_B
42→ 9. GND
43→ 8. INPUT3_R
44→ 7. GND
45→ 6. AIR_R
46→ 5. GND
47→ 4. AIR_L
48→ 3. GND
49→ 2. AIR_SIF
50→ 1. GND

CN4001 M8 → CN8803 IO3

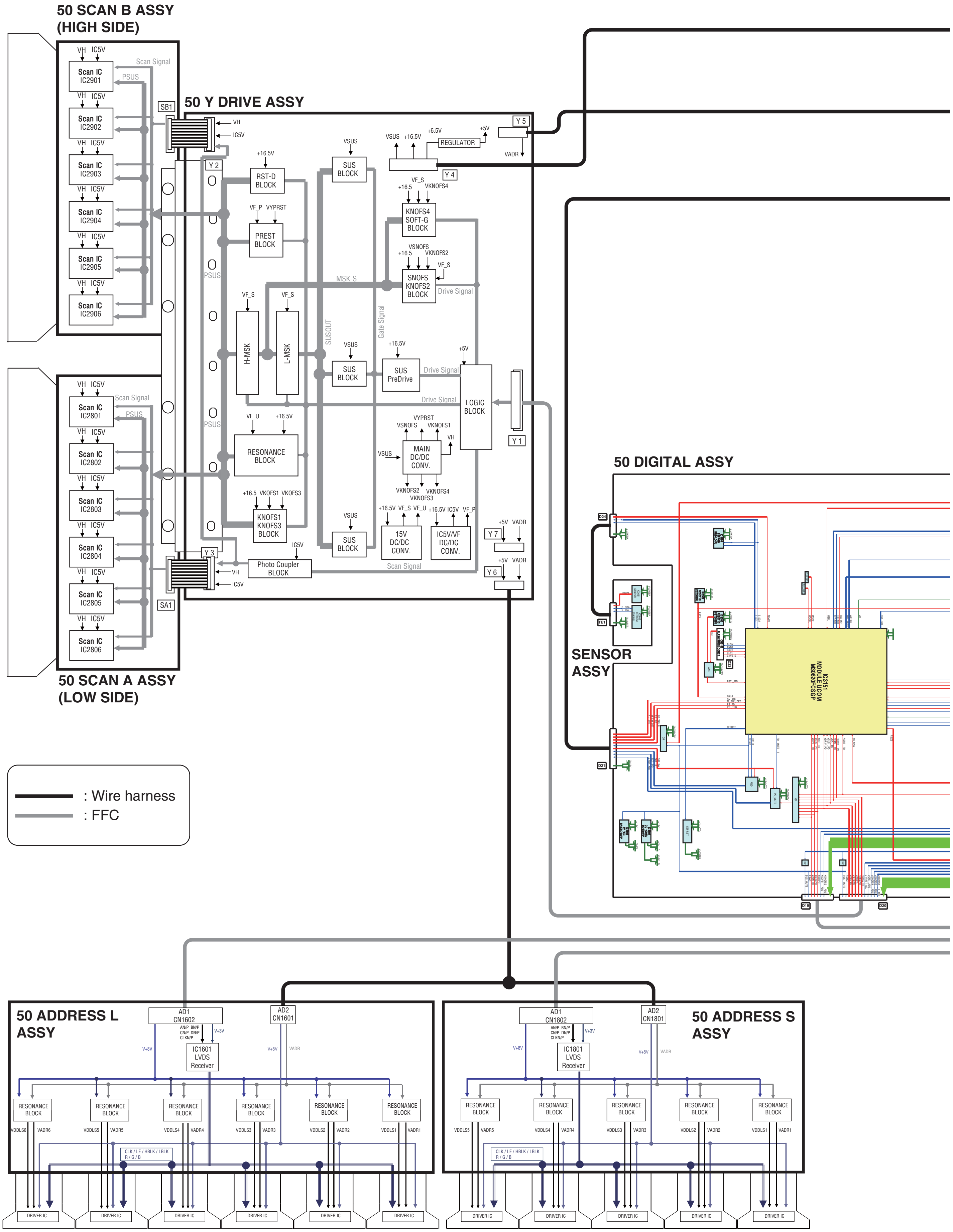
1→40. V+5V_A
2→39. NC
3→38. V+3_3V_STB
4→37. NC
5→36. GND
6→35. AIR_SIF
7→34. GND
8→33. RAPID_SW3
9→32. RAPID_SW1
10→31In2_CompY_PLUG
11→30. SLOW_SW3
12→29. SLOW_SW2
13→28. SLOW_SW1
14→27. HP_PLUG
15→26. AC_SC3_MUTE
16→25. AC_SC2_MUTE
17→24. AC_SC1_MUTE
18→23. AC_AM_MUTE
19→22. AC_HP_MUTE
20→21. LINK_IO3
21→20. LINK_IO2
22→19. GND
23→18. SPDIF_EMMA(DTB)
24→17. GND
25→16. I2S_SDATA_HDMI
26→15. I2S_LRCLK_HDMI
27→14. I2S_BCLK_HDMI
28→13. GND
29→12. I2S_BCLK_EMMA(DTB)
30→11. I2S_LRCLK_EMMA(DTB)
31→10. I2S_SDATA_EMMA(DTB)
32→ 9. GND
33→ 8. SCL_AV
34→ 7. SDA_AV
35→ 6. AC_A_MUTE
36→ 5. RST_MSP
37→ 4. OTW
38→ 3. A_NG_B
39→ 2. IO_DET
40→ 1. GND

CN4009 M25
→ CN9401 SR1

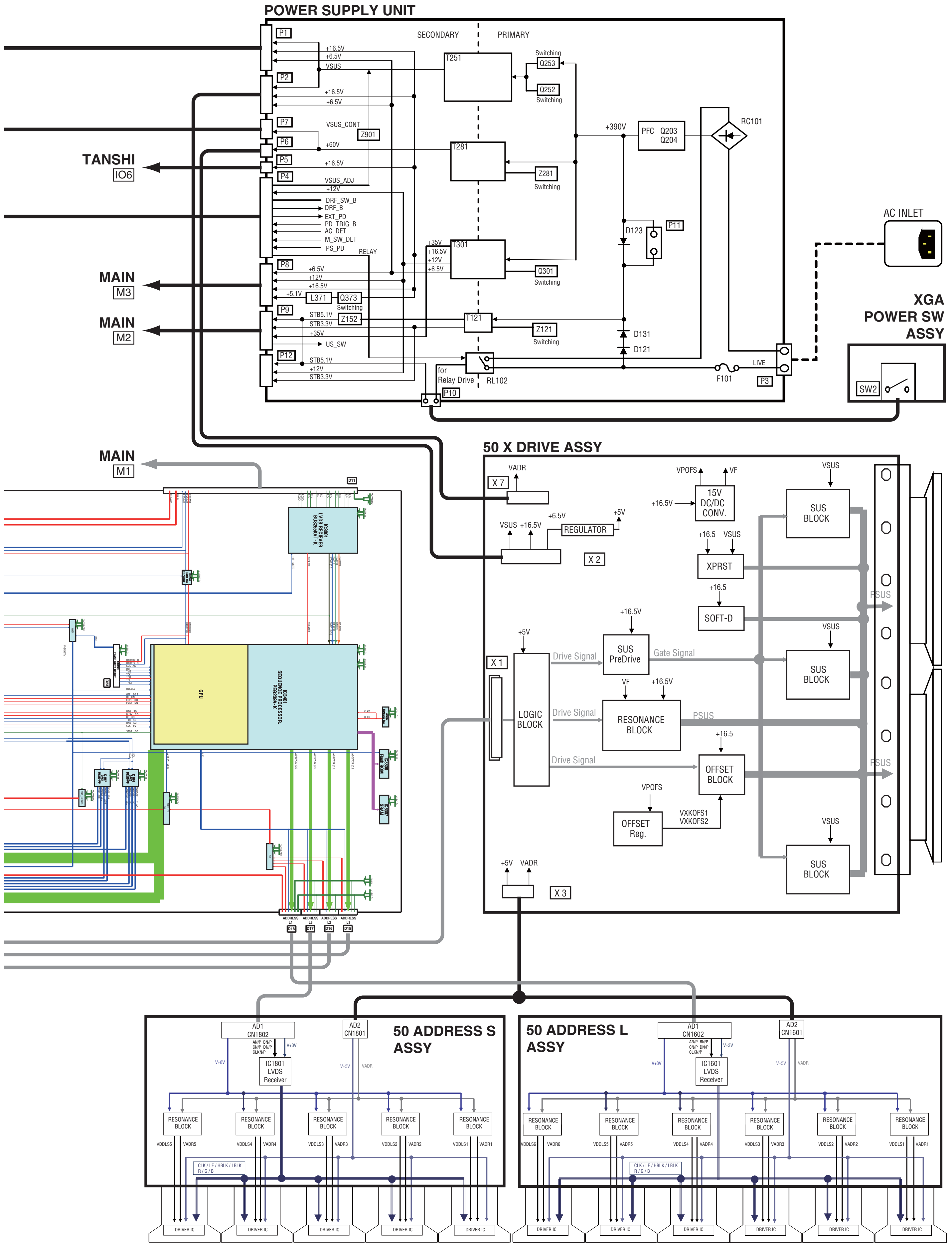
1→9. GND
2→8. SR_OUT
3→7. RXD_SR
4→6. TXD_SR
5→5. 232C_CH2
6→4. 232C_CH3
7→3. 232C_CH4
8→2. 232C_CH8
9→1. GND

## OVERALL DIAGRAM
PDP-508XD
PDP-5080XD
PDP-5080XA

# 4.3 OVERALL BLOCK DIAGRAM (1/2)

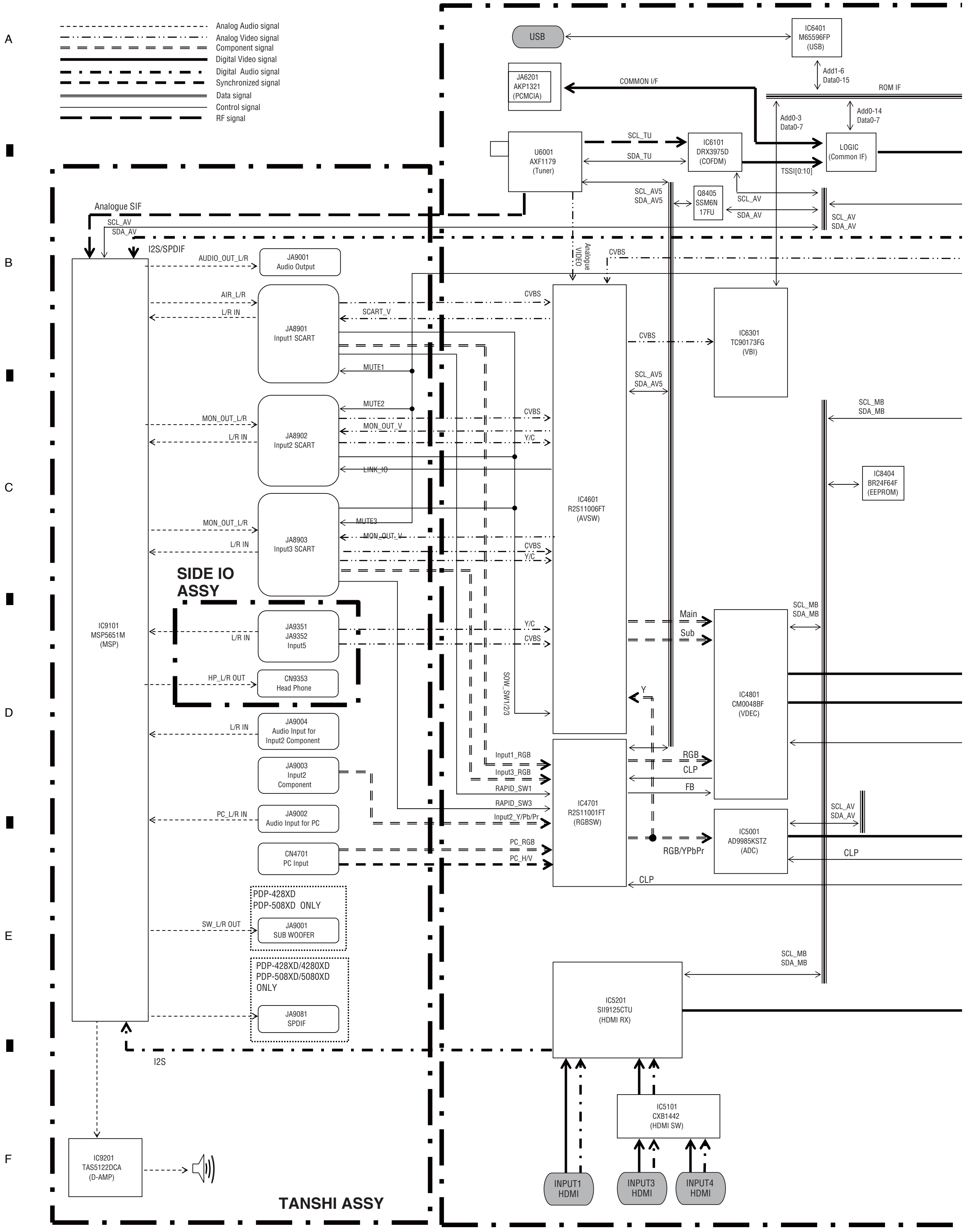


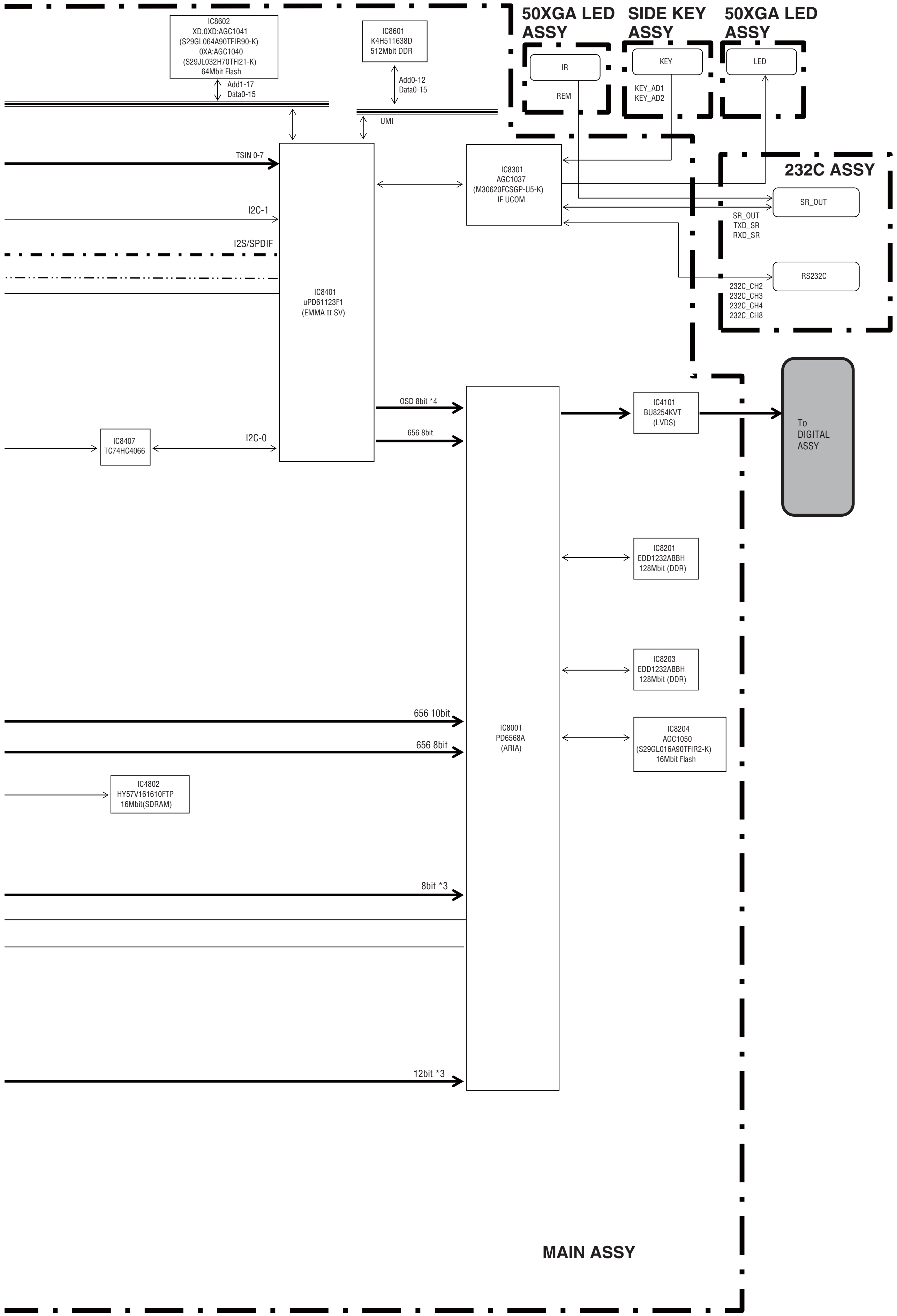
A
B
C
D
E
F
50 SCAN B ASSY (HIGH SIDE)
VH IC5V
Scan IC IC2901
Scan IC IC2902
Scan IC IC2903
Scan IC IC2904
Scan IC IC2905
Scan IC IC2906
Scan Signal
PSUS
SB1
50 Y DRIVE ASSY
Y 5
Y 2
Y 4
Y 3
Y 1
Y 7
Y 6
VH
IC5V
+16.5V
RST-D BLOCK
VF_P VYPRST
PREST BLOCK
VSUS
SUS BLOCK
VSUS +16.5V +6.5V +5V
REGULATOR
VADR
VF_S +16.5 VKNOFS4
KNOFS4 SOFT-G BLOCK
VSNOFS +16.5 VKNOFS2 VF_S
SNOFS KNOFS2 BLOCK
Drive Signal
MSK-S
VF_S
H-MSK
L-MSK
SUSOUT
Gate Signal
SUS PreDrive
LOGIC BLOCK
VF_U +16.5V
RESONANCE BLOCK
VYPRST VSNOFS VKNOFS1 VH
MAIN DC/DC CONV.
VKNOFS2 VKNOFS4 VKNOFS3
+16.5 VKOFS1 VKOFS3
KNOFS1 KNOFS3 BLOCK
+16.5V VF_S VF_U +16.5V IC5V VF_P
15V DC/DC CONV.
IC5V/VF DC/DC CONV.
+5V VADR
Photo Coupler BLOCK
Scan Signal
SA1
50 SCAN A ASSY (LOW SIDE)
Scan IC IC2801
Scan IC IC2802
Scan IC IC2803
Scan IC IC2804
Scan IC IC2805
Scan IC IC2806
: Wire harness
: FFC
50 DIGITAL ASSY
SENSOR ASSY
D24
TE1
D21
D19
D20
IC3151 MODULE UCOM M30620FCSGP
50 ADDRESS L ASSY
AD1 CN1602
AD2 CN1601
AN/P BN/P CN/P DN/P CLKN/P
V+3V
V+8V
IC1601 LVDS Receiver
V+5V VADR
RESONANCE BLOCK
VDDLS6 VADR6
VDDLS5 VADR5
VDDLS4 VADR4
VDDLS3 VADR3
VDDLS2 VADR2
VDDLS1 VADR1
CLK / LE / HBLK / LBLK R / G / B
DRIVER IC
50 ADDRESS S ASSY
AD1 CN1802
AD2 CN1801
IC1801 LVDS Receiver



POWER SUPPLY UNIT
SECONDARY
PRIMARY
P1
+16.5V
+6.5V
VSUS
P2
+16.5V
+6.5V
P7
VSUS_CONT
Z901
P6
+60V
P5
+16.5V
P4
VSUS_ADJ
+12V
DRF_SW_B
DRF_B
EXT_PD
PD_TRIG_B
AC_DET
M_SW_DET
PS_PD
RELAY
P8
+6.5V
+12V
+16.5V
+5.1V
L371
Q373
Switching
P9
STB5.1V
STB3.3V
Z152
+35V
US_SW
P12
STB5.1V
+12V
STB3.3V
T251
Switching
Q253
Q252
Switching
T281
Z281
Switching
+35V
+16.5V
+12V
+6.5V
T301
Q301
Switching
T121
Z121
Switching
for Relay Drive
RL102
P10
+390V
PFC Q203 Q204
RC101
D123
P11
D131
D121
F101
LIVE
P3
AC INLET
XGA POWER SW ASSY
SW2
TANSHI
IO6
MAIN
M3
MAIN
M2
MAIN
M1
D11
LVDS RECEIVER
CPU
IC3401 SEQUENCE PROCESSOR
ADDRESS L4
ADDRESS L3
ADDRESS L2
ADDRESS L1
D18
D17
D16
D15
50 X DRIVE ASSY
VADR
X 7
VPOFS
VF
VSUS
15V DC/DC CONV.
+16.5V
SUS BLOCK
+6.5V
+5V
VSUS +16.5V
REGULATOR
X 2
+16.5
VSUS
XPRST
+16.5
SOFT-D
PSUS
+16.5V
+5V
SUS PreDrive
Gate Signal
VSUS
SUS BLOCK
X 1
LOGIC BLOCK
Drive Signal
Drive Signal
Drive Signal
VF
+16.5V
RESONANCE BLOCK
PSUS
+16.5
OFFSET BLOCK
PSUS
VPOFS
OFFSET Reg.
VXKOFS1
VXKOFS2
VSUS
SUS BLOCK
+5V
VADR
X 3
50 ADDRESS S ASSY
AD1 CN1802
AD2 CN1801
IC1801 LVDS Receiver
V+8V
V+3V
V+5V
VADR
RESONANCE BLOCK
VDDLS5 VADR5
VDDLS4 VADR4
VDDLS3 VADR3
VDDLS2 VADR2
VDDLS1 VADR1
CLK / LE / HBLK / LBLK
R / G / B
DRIVER IC
50 ADDRESS L ASSY
AD1 CN1602
AD2 CN1601
IC1601 LVDS Receiver
VDDLS6 VADR6
VDDLS5 VADR5
VDDLS4 VADR4
VDDLS3 VADR3
VDDLS2 VADR2
VDDLS1 VADR1
DRIVER IC

# 4.4 OVERALL BLOCK DIAGRAM (2/2)

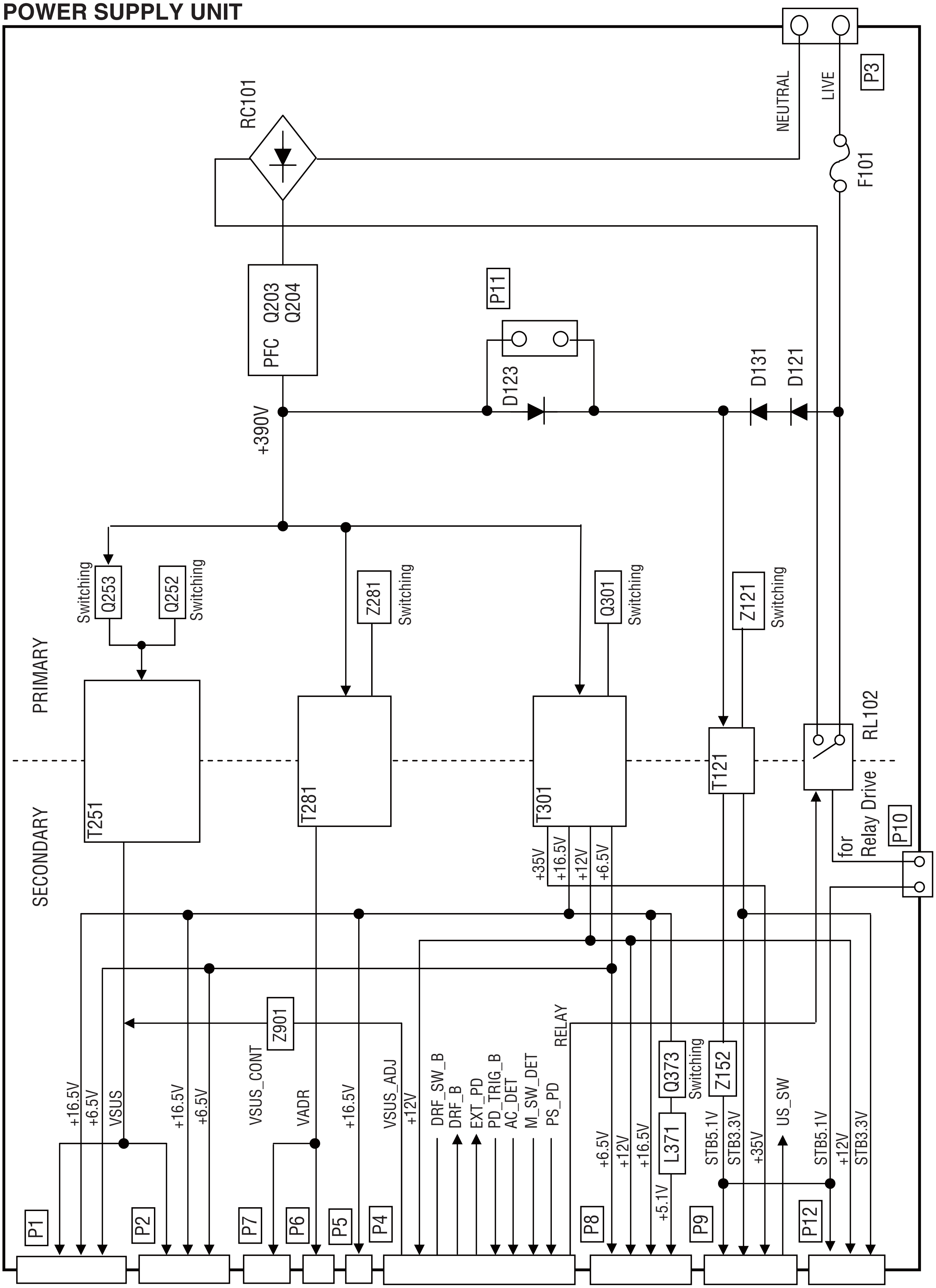

A
B
C
D
E
F
Analog Audio signal
Analog Video signal
Component signal
Digital Video signal
Digital Audio signal
Synchronized signal
Data signal
Control signal
RF signal
USB
IC6401
M65596FP
(USB)
JA6201
AKP1321
(PCMCIA)
COMMON I/F
Add1-6
Data0-15
ROM IF
Add0-3
Data0-7
Add0-14
Data0-7
U6001
AXF1179
(Tuner)
SCL_TU
SDA_TU
IC6101
DRX3975D
(COFDM)
LOGIC
(Common IF)
TSSI[0:10]
SCL_AV5
SDA_AV5
Q8405
SSM6N
17FU
SCL_AV
SDA_AV
SCL_AV
SDA_AV
Analogue SIF
SCL_AV
SDA_AV
I2S/SPDIF
AUDIO_OUT_L/R
JA9001
Audio Output
Analogue
VIDEO
CVBS
AIR_L/R
L/R IN
JA8901
Input1 SCART
CVBS
SCART_V
MUTE1
CVBS
IC6301
TC90173FG
(VBI)
SCL_AV5
SDA_AV5
MUTE2
MON_OUT_L/R
L/R IN
JA8902
Input2 SCART
CVBS
MON_OUT_V
Y/C
LINK_IO
SCL_MB
SDA_MB
IC4601
R2S11006FT
(AVSW)
IC8404
BR24F64F
(EEPROM)
MON_OUT_L/R
L/R IN
JA8903
Input3 SCART
MUTE3
MON_OUT_V
CVBS
Y/C
SIDE IO
ASSY
IC9101
MSP5651M
(MSP)
L/R IN
JA9351
JA9352
Input5
Y/C
CVBS
Main
Sub
SCL_MB
SDA_MB
HP_L/R OUT
CN9353
Head Phone
SOW_SW1/2/3
Y
IC4801
CM0048BF
(VDEC)
L/R IN
JA9004
Audio Input for
Input2 Component
JA9003
Input2
Component
Input1_RGB
Input3_RGB
RAPID_SW1
RAPID_SW3
Input2_Y/Pb/Pr
RGB
CLP
FB
IC4701
R2S11001FT
(RGBSW)
SCL_AV
SDA_AV
PC_L/R IN
JA9002
Audio Input for PC
CN4701
PC Input
PC_RGB
PC_H/V
IC5001
AD9985KSTZ
(ADC)
RGB/YPbPr
CLP
CLP
PDP-428XD
PDP-508XD ONLY
SW_L/R OUT
JA9001
SUB WOOFER
SCL_MB
SDA_MB
PDP-428XD/4280XD
PDP-508XD/5080XD
ONLY
JA9081
SPDIF
IC5201
SII9125CTU
(HDMI RX)
I2S
IC5101
CXB1442
(HDMI SW)
IC9201
TAS5122DCA
(D-AMP)
INPUT1
HDMI
INPUT3
HDMI
INPUT4
HDMI
TANSHI ASSY



50XGA LED ASSY
SIDE KEY ASSY
50XGA LED ASSY
IR
REM
KEY
KEY_AD1
KEY_AD2
LED
IC8602
XD,0XD:AGC1041
(S29GL064A90TFIR90-K)
0XA:AGC1040
(S29JL032H70TFI21-K)
64Mbit Flash
Add1-17
Data0-15
IC8601
K4H511638D
512Mbit DDR
Add0-12
Data0-15
UMI
TSIN 0-7
I2C-1
I2S/SPDIF
IC8401
uPD61123F1
(EMMA II SV)
IC8301
AGC1037
(M30620FCSGP-U5-K)
IF UCOM
232C ASSY
SR_OUT
SR_OUT
TXD_SR
RXD_SR
RS232C
232C_CH2
232C_CH3
232C_CH4
232C_CH8
OSD 8bit *4
656 8bit
I2C-0
IC8407
TC74HC4066
IC4101
BU8254KVT
(LVDS)
To DIGITAL ASSY
IC8201
EDD1232ABBH
128Mbit (DDR)
IC8203
EDD1232ABBH
128Mbit (DDR)
656 10bit
656 8bit
IC8001
PD6568A
(ARIA)
IC8204
AGC1050
(S29GL016A90TFIR2-K)
16Mbit Flash
IC4802
HY57V161610FTP
16Mbit(SDRAM)
8bit *3
12bit *3
MAIN ASSY

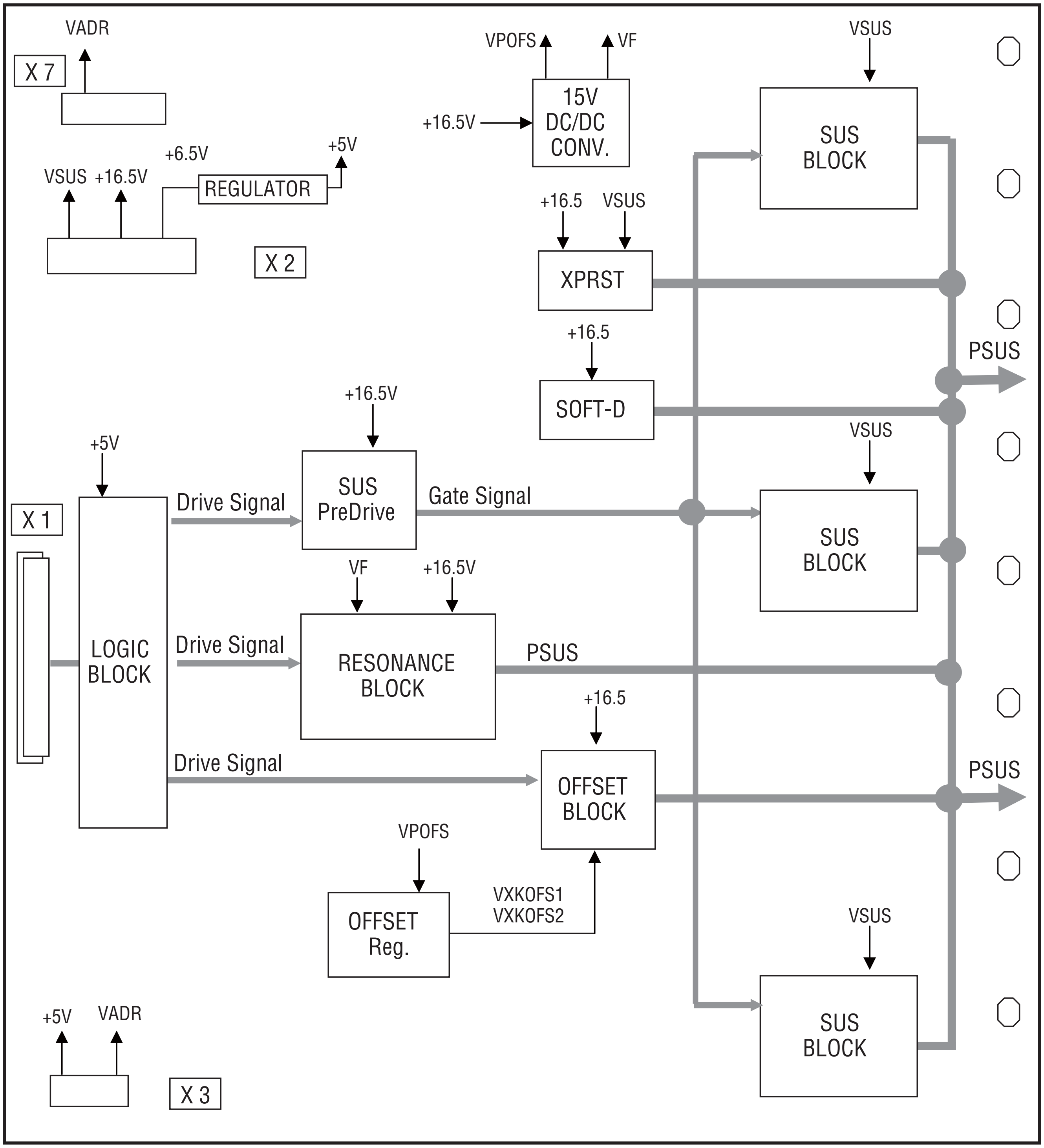
# 4.5 POWER SUPPLY UNIT

## POWER SUPPLY UNIT

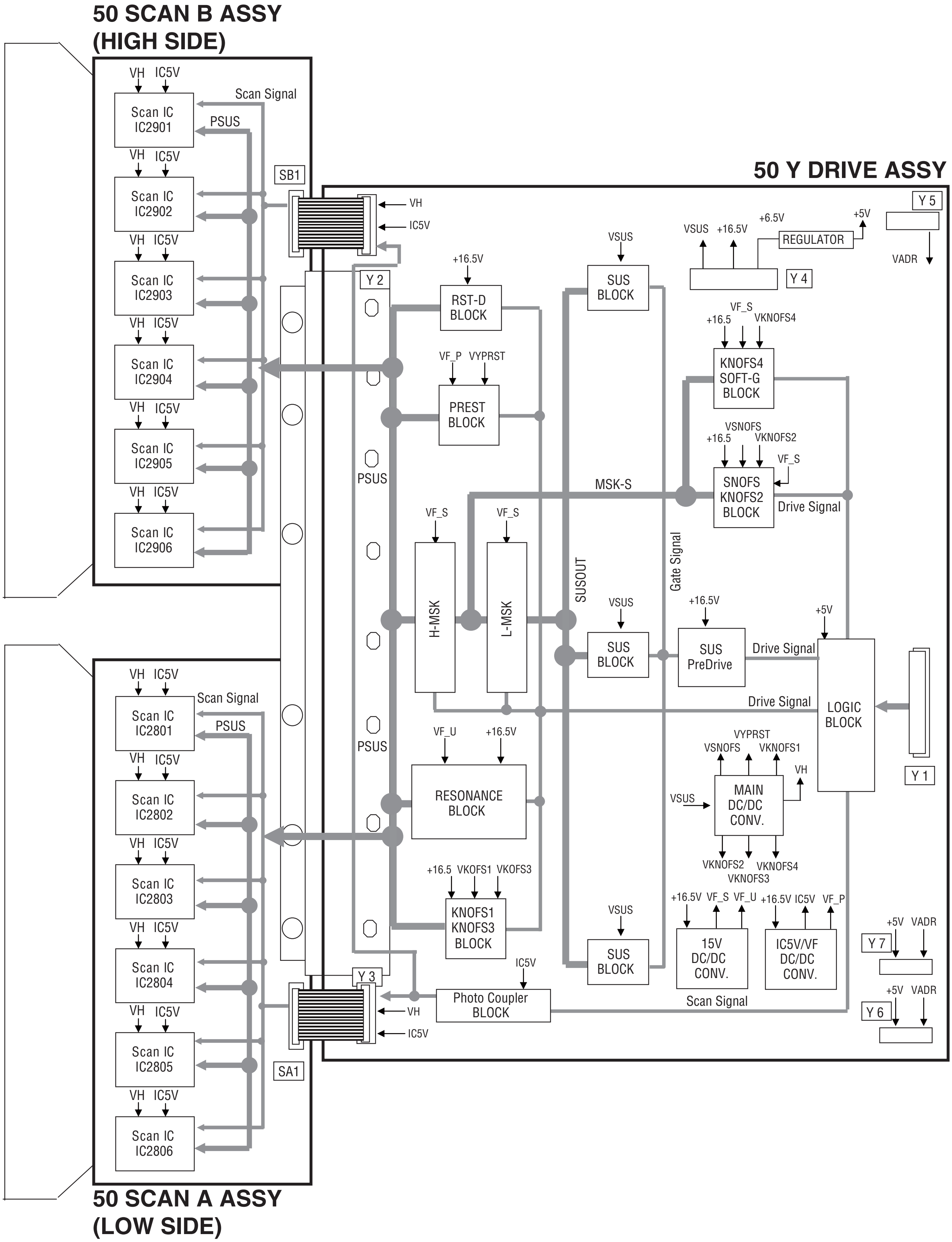

P3
NEUTRAL
LIVE
F101
RC101
PFC Q203 Q204
P11
D123
D131
D121
+390V
Switching
Q253
Q252
Switching
Z281
Switching
Q301
Switching
Z121
Switching
PRIMARY
SECONDARY
T251
T281
T301
T121
RL102
for Relay Drive
P10
+35V
+16.5V
+12V
+6.5V
Z901
RELAY
+16.5V
+6.5V
VSUS
+16.5V
+6.5V
VSUS_CONT
VADR
+16.5V
VSUS_ADJ
+12V
DRF_SW_B
DRF_B
EXT_PD
PD_TRIG_B
AC_DET
M_SW_DET
PS_PD
Q373
Switching
Z152
L371
+6.5V
+12V
+16.5V
+5.1V
STB5.1V
STB3.3V
+35V
US_SW
STB5.1V
+12V
STB3.3V
P1
P2
P7
P6
P5
P4
P8
P9
P12

## 4.6 50 X DRIVE ASSY

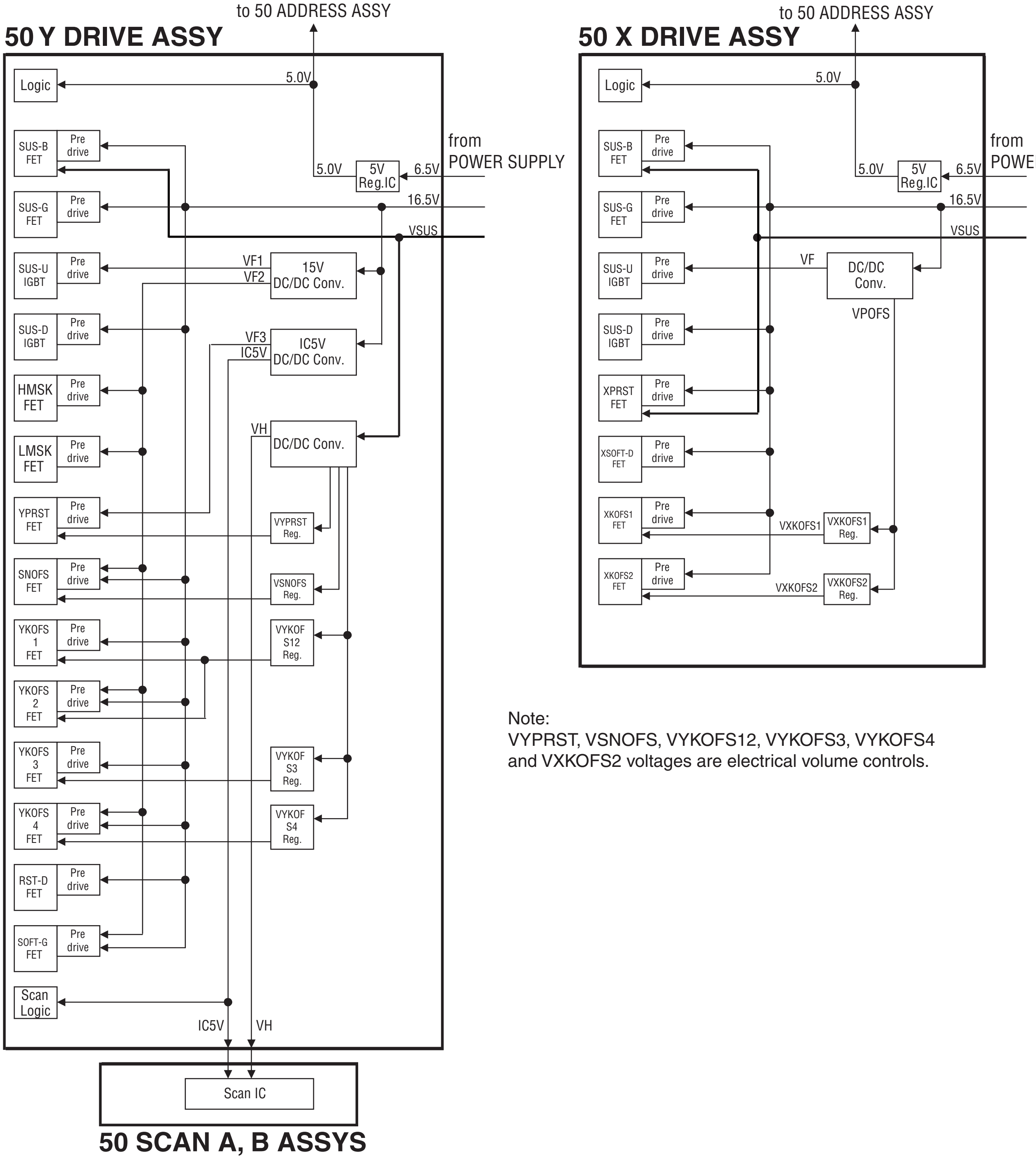
### 50 X DRIVE ASSY


VADR
X 7
VPOFS
VF
15V DC/DC CONV.
+16.5V
VSUS
SUS BLOCK
+6.5V
+5V
VSUS +16.5V
REGULATOR
X 2
+16.5
VSUS
XPRST
+16.5
PSUS
SOFT-D
+16.5V
+5V
VSUS
X 1
Drive Signal
SUS PreDrive
Gate Signal
SUS BLOCK
VF
+16.5V
LOGIC BLOCK
Drive Signal
RESONANCE BLOCK
PSUS
+16.5
Drive Signal
OFFSET BLOCK
PSUS
VPOFS
OFFSET Reg.
VXKOFS1
VXKOFS2
VSUS
SUS BLOCK
+5V
VADR
X 3

## 4.7 50 Y DRIVE, 50 SCAN A and B ASSYS


50 SCAN B ASSY
(HIGH SIDE)
VH
IC5V
Scan IC
IC2901
Scan Signal
PSUS
Scan IC
IC2902
Scan IC
IC2903
Scan IC
IC2904
Scan IC
IC2905
Scan IC
IC2906
SB1
50 Y DRIVE ASSY
Y 5
+5V
+6.5V
VSUS
+16.5V
REGULATOR
VADR
Y 4
VH
IC5V
Y 2
+16.5V
RST-D
BLOCK
SUS
BLOCK
VF_S
+16.5
VKNOFS4
KNOFS4
SOFT-G
BLOCK
VF_P
VYPRST
PREST
BLOCK
VSNOFS
VKNOFS2
SNOFS
KNOFS2
BLOCK
MSK-S
Drive Signal
PSUS
H-MSK
L-MSK
SUSOUT
Gate Signal
SUS
PreDrive
Drive Signal
LOGIC
BLOCK
Y 1
VF_U
RESONANCE
BLOCK
VYPRST
VSNOFS
VKNOFS1
MAIN
DC/DC
CONV.
VKNOFS2
VKNOFS4
VKNOFS3
VKOFS1
VKOFS3
KNOFS1
KNOFS3
BLOCK
15V
DC/DC
CONV.
IC5V/VF
DC/DC
CONV.
Y 7
Y 6
Y 3
Photo Coupler
BLOCK
Scan Signal
50 SCAN A ASSY
(LOW SIDE)
Scan IC
IC2801
Scan IC
IC2802
Scan IC
IC2803
Scan IC
IC2804
Scan IC
IC2805
Scan IC
IC2806
SA1

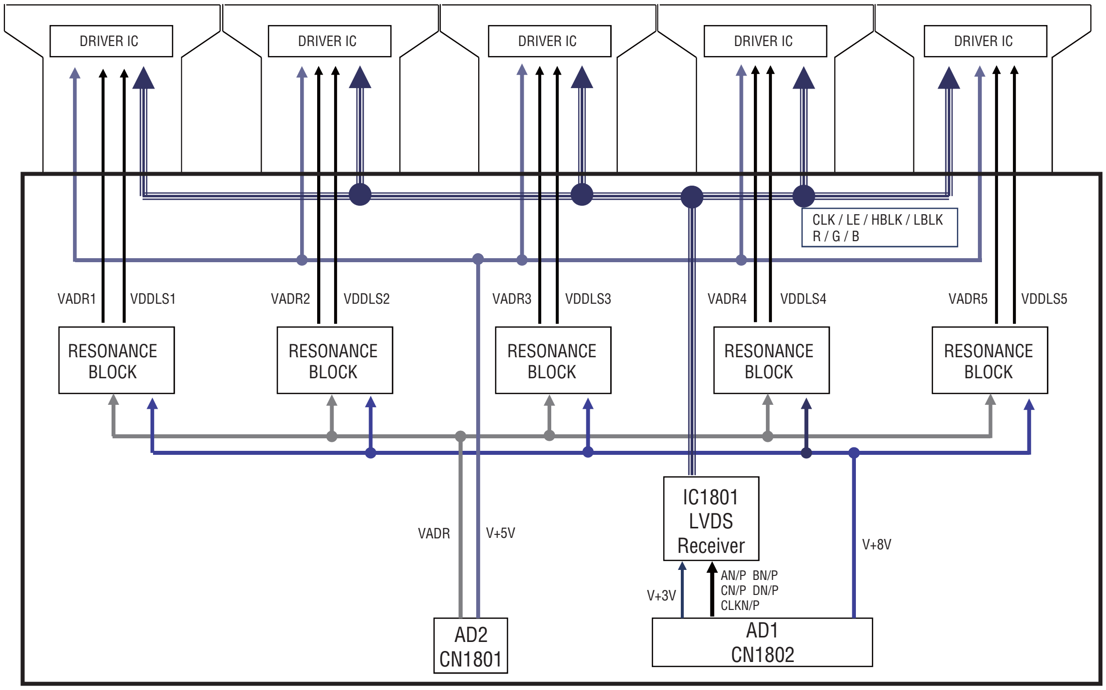
# 4.8 POWER SUPPLY BLOCK of 50 X, Y DRIVE and 50 SCAN A, B ASSYS


to 50 ADDRESS ASSY
50 Y DRIVE ASSY
Logic
5.0V
SUS-B FET
Pre drive
from POWER SUPPLY
5.0V
5V Reg.IC
6.5V
SUS-G FET
16.5V
VSUS
SUS-U IGBT
VF1
VF2
15V DC/DC Conv.
SUS-D IGBT
VF3
IC5V
IC5V DC/DC Conv.
HMSK FET
VH
LMSK FET
DC/DC Conv.
YPRST FET
VYPRST Reg.
SNOFS FET
VSNOFS Reg.
YKOFS 1 FET
VYKOF S12 Reg.
YKOFS 2 FET
YKOFS 3 FET
VYKOF S3 Reg.
YKOFS 4 FET
VYKOF S4 Reg.
RST-D FET
SOFT-G FET
Scan Logic
IC5V
VH
Scan IC
50 SCAN A, B ASSYS
to 50 ADDRESS ASSY
50 X DRIVE ASSY
Logic
5.0V
SUS-B FET
from POWER SUPPLY
5.0V
5V Reg.IC
6.5V
SUS-G FET
16.5V
VSUS
SUS-U IGBT
VF
DC/DC Conv.
VPOFS
SUS-D IGBT
XPRST FET
XSOFT-D FET
XKOFS1 FET
VXKOFS1
VXKOFS1 Reg.
XKOFS2 FET
VXKOFS2
VXKOFS2 Reg.

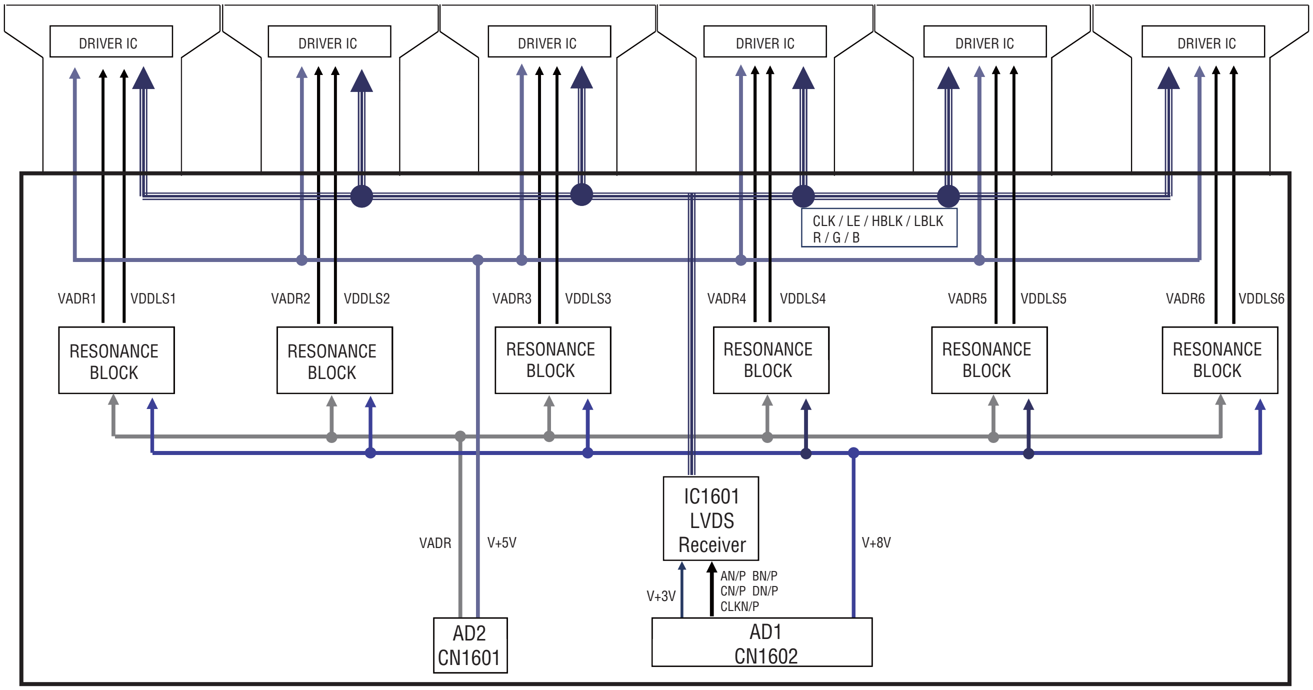
Note:
VYPRST, VSNOFS, VYKOFS12, VYKOFS3, VYKOFS4 and VXKOFS2 voltages are electrical volume controls.

# 4.9 50 ADDRESS L and S ASSYS

## 50 ADDRESS S ASSY

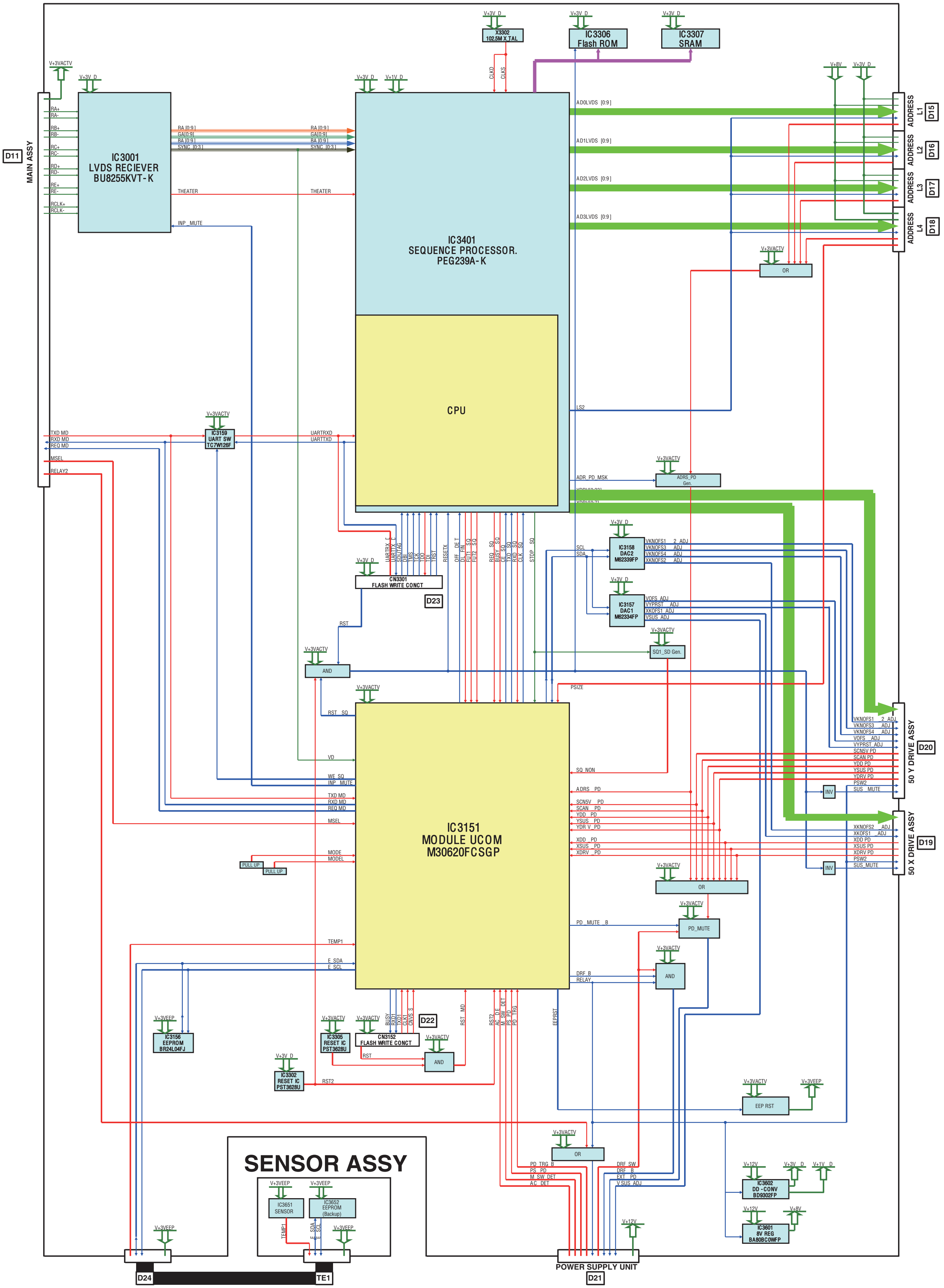

DRIVER IC
DRIVER IC
DRIVER IC
DRIVER IC
DRIVER IC
CLK / LE / HBLK / LBLK
R / G / B
VADR1
VDDLS1
VADR2
VDDLS2
VADR3
VDDLS3
VADR4
VDDLS4
VADR5
VDDLS5
RESONANCE BLOCK
RESONANCE BLOCK
RESONANCE BLOCK
RESONANCE BLOCK
RESONANCE BLOCK
VADR
V+5V
IC1801
LVDS
Receiver
V+8V
V+3V
AN/P BN/P
CN/P DN/P
CLKN/P
AD2
CN1801
AD1
CN1802

## 50 ADDRESS L ASSY

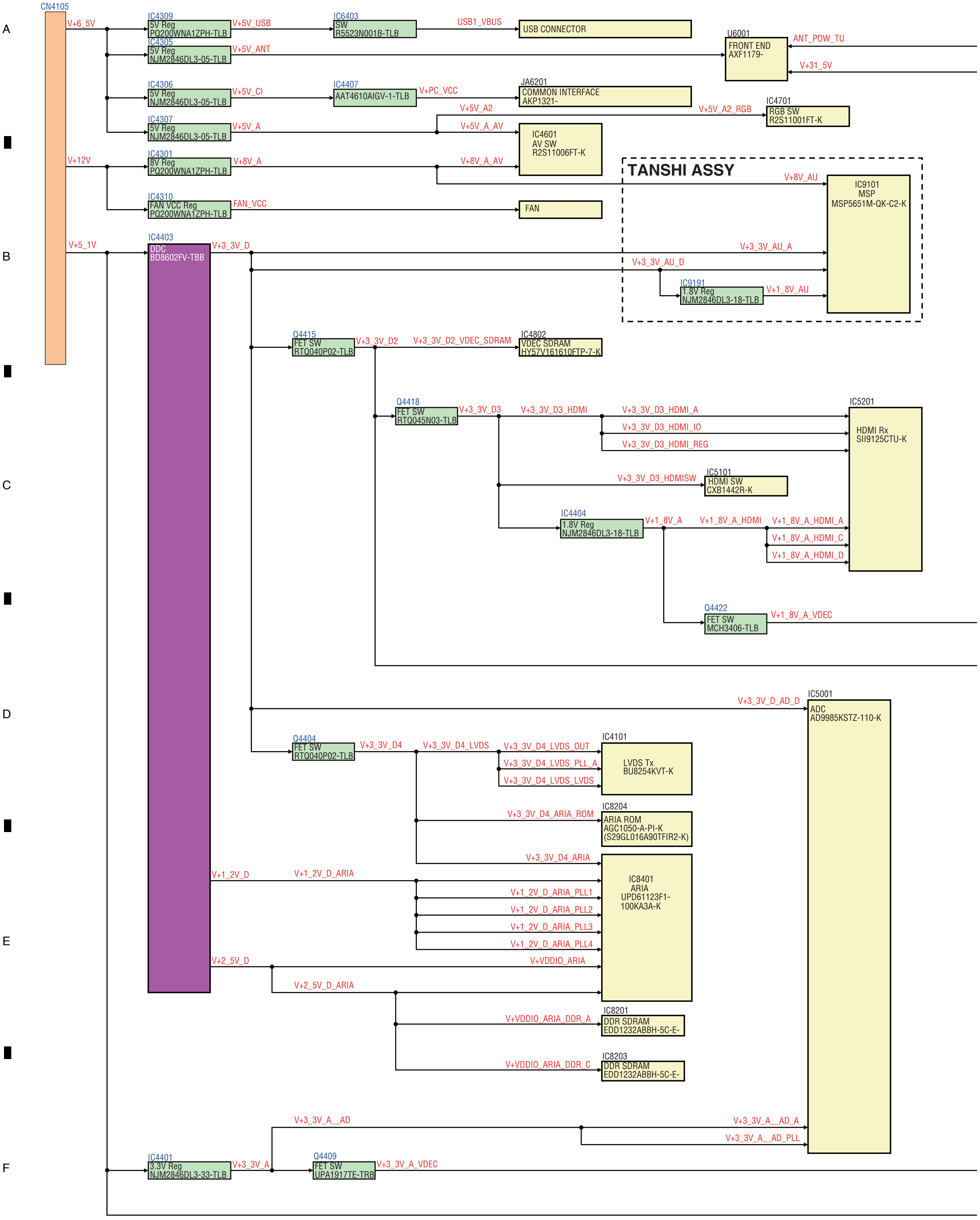

DRIVER IC
DRIVER IC
DRIVER IC
DRIVER IC
DRIVER IC
DRIVER IC
CLK / LE / HBLK / LBLK
R / G / B
VADR1
VDDLS1
VADR2
VDDLS2
VADR3
VDDLS3
VADR4
VDDLS4
VADR5
VDDLS5
VADR6
VDDLS6
RESONANCE BLOCK
RESONANCE BLOCK
RESONANCE BLOCK
RESONANCE BLOCK
RESONANCE BLOCK
RESONANCE BLOCK
VADR
V+5V
IC1601
LVDS
Receiver
V+8V
V+3V
AN/P BN/P
CN/P DN/P
CLKN/P
AD2
CN1601
AD1
CN1602

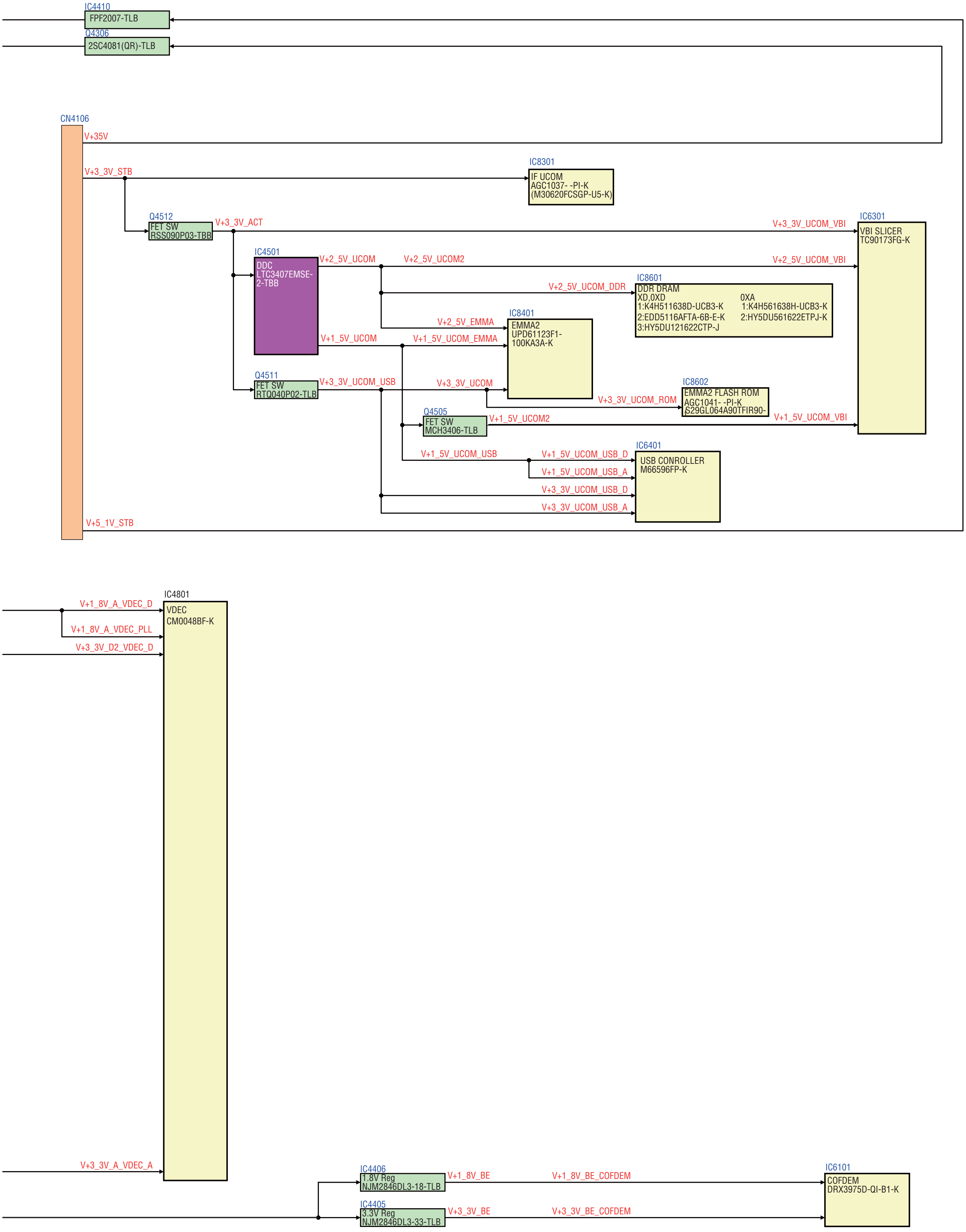
# 4.10 50 DIGITAL and SENSOR ASSYS

## 50 DIGITAL ASSY


MAIN ASSY
D11
V+3VACTV
V+3V_D
RA+
RA-
RB+
RB-
RC+
RC-
RD+
RD-
RE+
RE-
RCLK+
RCLK-
IC3001
LVDS RECIEVER
BU8255KVT-K
RA [0:9]
GA[0:9]
BA [0:9]
SYNC [0:3]
THEATER
INP_MUTE
X3302
102.5M X TAL
CLKD
CLKS
IC3306
Flash ROM
IC3307
SRAM
V+1V_D
IC3401
SEQUENCE PROCESSOR.
PEG239A-K
CPU
AD0LVDS [0:9]
AD1LVDS [0:9]
AD2LVDS [0:9]
AD3LVDS [0:9]
LS2
ADR_PD_MSK
YDRV[0:23]
XDRV[0:7]
V+8V
ADDRESS L1 D15
ADDRESS L2 D16
ADDRESS L3 D17
ADDRESS L4 D18
OR
ADRS_PD Gen.
TXD MD
RXD MD
REQ MD
MSEL
RELAY2
IC3159
UART SW
TC7W126F
UARTRXD
UARTTXD
UARTRX_E
UARTTX_E
SDIJTAG
DBI
TMS
TCK
TDO
TDI
TRST
RESETX
OFF_DET
DL_FIN
FUT1_SQ
FUT2_SQ
REQ_SQ
BUSY_SQ
CE_SQ
TXD_SQ
RXD_SQ
CLK_SQ
STOP_SQ
CN3301
FLASH WRITE CONCT
D23
RST
AND
SCL
SDA
IC3158
DAC2
M62339FP
VKNOFS1_2_ADJ
VKNOFS3_ADJ
VKNOFS4_ADJ
XKNOFS2_ADJ
IC3157
DAC1
M62334FP
VOFS_ADJ
VYPRST_ADJ
XKOFS1_ADJ
VSUS_ADJ
SQ1_SD Gen.
PSIZE
RST_SQ
VD
WE_SQ
INP_MUTE
MODE
MODEL
PULL UP
PULL UP
IC3151
MODULE UCOM
M30620FCSGP
SQ_NON
ADRS_PD
SCN5V_PD
SCAN_PD
YDD_PD
YSUS_PD
YDR V_PD
XDD_PD
XSUS_PD
XDRV_PD
VKNOFS1_2_ADJ
VKNOFS3_ADJ
VKNOFS4_ADJ
VOFS_ADJ
VYPRST_ADJ
SCN5V PD
SCAN PD
YDD PD
YSUS PD
YDRV PD
PSW2
SUS_MUTE
INV
50 Y DRIVE ASSY
D20
XKNOFS2_ADJ
XKOFS1_ADJ
XDD PD
XSUS PD
XDRV PD
PSW2
SUS_MUTE
50 X DRIVE ASSY
D19
PD_MUTE_B
PD_MUTE
DRF_B
RELAY
TEMP1
E_SDA
E_SCL
V+3VEEP
IC3156
EEPROM
BR24L04FJ
IC3305
RESET IC
PST3628U
CN3152
FLASH WRITE CONCT
BUSY
RXD1
TXD1
CLK1
CNVS_S
D22
RST_MD
IC3302
RESET IC
PST3628U
RST2
AC_DE
M_SW_DET
PS_PD
PD_TRG
EEPRST
EEP RST
V+12V
IC3602
DD-CONV
BD9302FP
IC3601
8V REG
BA80BC0WFP
PD_TRG_B
PS_PD
M_SW_DET
AC_DET
DRF_SW
DRF_B
EXT_PD
V SUS_ADJ
POWER SUPPLY UNIT
D21
SENSOR ASSY
IC3651
SENSOR
IC3652
EEPROM
(Backup)
TEMP1
E_SDA
E_SCL
D24
TE1

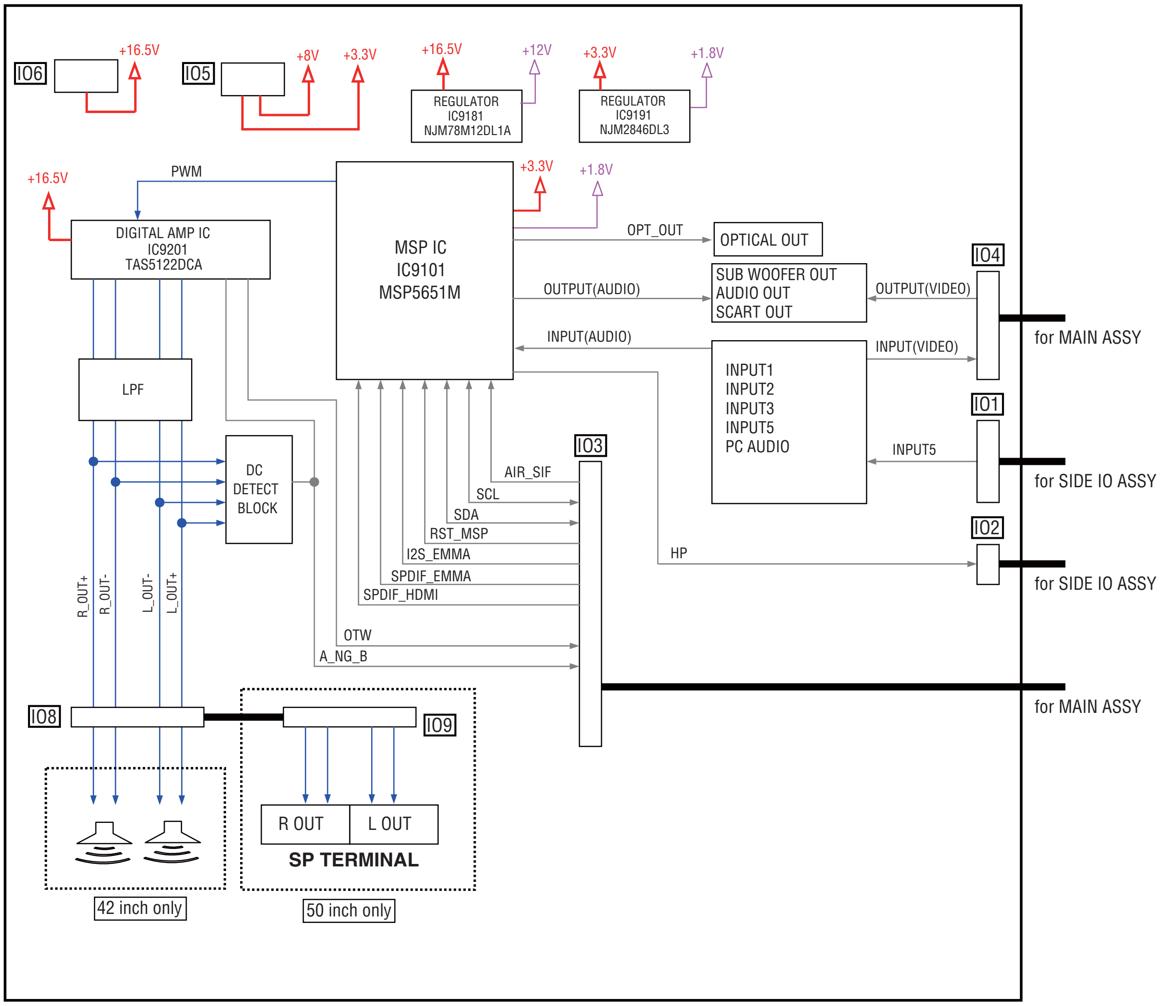
# 4.11 POWER SUPPLY BLOCK of MULTI BASE SECTION


A
B
C
D
E
F
CN4105
V+6_5V
V+12V
V+5_1V
IC4309
5V Reg
PQ200WNA1ZPH-TLB
V+5V_USB
IC6403
SW
R5523N001B-TLB
USB1_VBUS
USB CONNECTOR
IC4305
5V Reg
NJM2846DL3-05-TLB
V+5V_ANT
U6001
FRONT END
AXF1179-
ANT_POW_TU
V+31_5V
IC4306
5V Reg
NJM2846DL3-05-TLB
V+5V_CI
IC4407
AAT4610AIGV-1-TLB
V+PC_VCC
JA6201
COMMON INTERFACE
AKP1321-
V+5V_A2
V+5V_A2_RGB
IC4701
RGB SW
R2S11001FT-K
IC4307
5V Reg
NJM2846DL3-05-TLB
V+5V_A
V+5V_A_AV
IC4601
AV SW
R2S11006FT-K
IC4301
8V Reg
PQ200WNA1ZPH-TLB
V+8V_A
V+8V_A_AV
TANSHI ASSY
V+8V_AU
IC9101
MSP
MSP5651M-QK-C2-K
IC4310
FAN VCC Reg
PQ200WNA1ZPH-TLB
FAN_VCC
FAN
IC4403
DDC
BD8602FV-TBB
V+3_3V_D
V+3_3V_AU_A
V+3_3V_AU_D
IC9191
1.8V Reg
NJM2846DL3-18-TLB
V+1_8V_AU
Q4415
FET SW
RTQ040P02-TLB
V+3_3V_D2
V+3_3V_D2_VDEC_SDRAM
IC4802
VDEC SDRAM
HY57V161610FTP-7-K
Q4418
FET SW
RTQ045N03-TLB
V+3_3V_D3
V+3_3V_D3_HDMI
V+3_3V_D3_HDMI_A
V+3_3V_D3_HDMI_IO
V+3_3V_D3_HDMI_REG
IC5201
HDMI Rx
SII9125CTU-K
V+3_3V_D3_HDMISW
IC5101
HDMI SW
CXB1442R-K
IC4404
1.8V Reg
NJM2846DL3-18-TLB
V+1_8V_A
V+1_8V_A_HDMI
V+1_8V_A_HDMI_A
V+1_8V_A_HDMI_C
V+1_8V_A_HDMI_D
Q4422
FET SW
MCH3406-TLB
V+1_8V_A_VDEC
V+3_3V_D_AD_D
IC5001
ADC
AD9985KSTZ-110-K
Q4404
FET SW
RTQ040P02-TLB
V+3_3V_D4
V+3_3V_D4_LVDS
V+3_3V_D4_LVDS_OUT
V+3_3V_D4_LVDS_PLL_A
V+3_3V_D4_LVDS_LVDS
IC4101
LVDS Tx
BU8254KVT-K
V+3_3V_D4_ARIA_ROM
IC8204
ARIA ROM
AGC1050-A-PI-K
(S29GL016A90TFIR2-K)
V+3_3V_D4_ARIA
V+1_2V_D
V+1_2V_D_ARIA
IC8401
ARIA
UPD61123F1-
100KA3A-K
V+1_2V_D_ARIA_PLL1
V+1_2V_D_ARIA_PLL2
V+1_2V_D_ARIA_PLL3
V+1_2V_D_ARIA_PLL4
V+2_5V_D
V+VDDIO_ARIA
V+2_5V_D_ARIA
IC8201
V+VDDIO_ARIA_DDR_A
DDR SDRAM
EDD1232ABBH-5C-E-
IC8203
V+VDDIO_ARIA_DDR_C
DDR SDRAM
EDD1232ABBH-5C-E-
V+3_3V_A__AD
V+3_3V_A__AD_A
V+3_3V_A__AD_PLL
IC4401
3.3V Reg
NJM2846DL3-33-TLB
V+3_3V_A
Q4409
FET SW
UPA1917TE-TRB
V+3_3V_A_VDEC

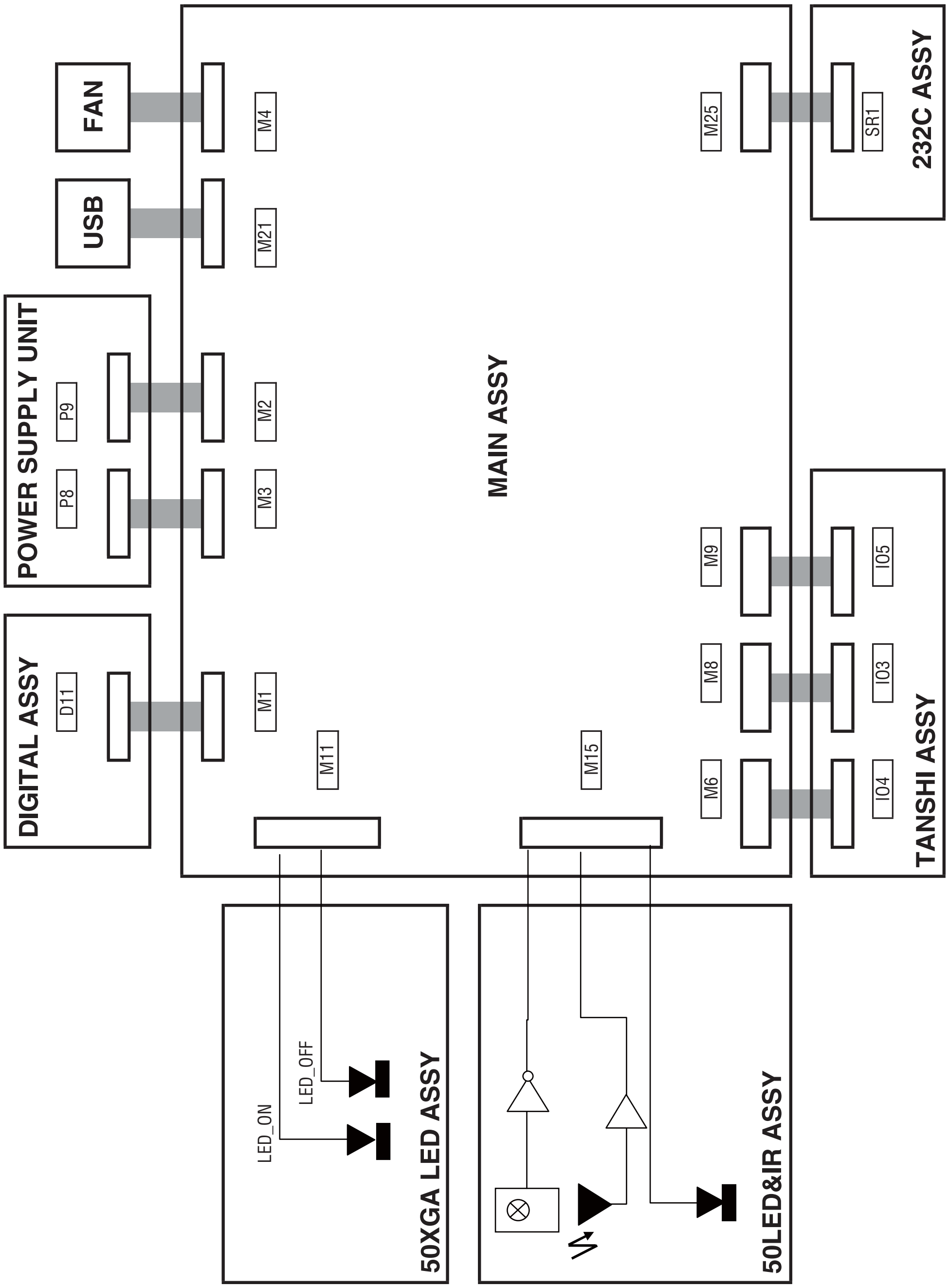

IC4410
FPF2007-TLB
Q4306
2SC4081(QR)-TLB
CN4106
V+35V
V+3_3V_STB
IC8301
IF UCOM
AGC1037- -PI-K
(M30620FCSGP-U5-K)
Q4512
FET SW
RSS090P03-TBB
V+3_3V_ACT
V+3_3V_UCOM_VBI
IC6301
VBI SLICER
TC90173FG-K
IC4501
DDC
LTC3407EMSE-
2-TBB
V+2_5V_UCOM
V+2_5V_UCOM2
V+2_5V_UCOM_VBI
V+2_5V_UCOM_DDR
IC8601
DDR DRAM
XD,0XD
1:K4H511638D-UCB3-K
2:EDD5116AFTA-6B-E-K
3:HY5DU121622CTP-J
0XA
1:K4H561638H-UCB3-K
2:HY5DU561622ETPJ-K
IC8401
V+2_5V_EMMA
EMMA2
UPD61123F1-
100KA3A-K
V+1_5V_UCOM
V+1_5V_UCOM_EMMA
Q4511
FET SW
RTQ040P02-TLB
V+3_3V_UCOM_USB
V+3_3V_UCOM
IC8602
EMMA2 FLASH ROM
AGC1041- -PI-K
(S29GL064A90TFIR90-
V+3_3V_UCOM_ROM
Q4505
FET SW
MCH3406-TLB
V+1_5V_UCOM2
V+1_5V_UCOM_VBI
IC6401
USB CONROLLER
M66596FP-K
V+1_5V_UCOM_USB
V+1_5V_UCOM_USB_D
V+1_5V_UCOM_USB_A
V+3_3V_UCOM_USB_D
V+3_3V_UCOM_USB_A
V+5_1V_STB
IC4801
VDEC
CM0048BF-K
V+1_8V_A_VDEC_D
V+1_8V_A_VDEC_PLL
V+3_3V_D2_VDEC_D
V+3_3V_A_VDEC_A
IC4406
1.8V Reg
NJM2846DL3-18-TLB
V+1_8V_BE
V+1_8V_BE_COFDEM
IC4405
3.3V Reg
NJM2846DL3-33-TLB
V+3_3V_BE
V+3_3V_BE_COFDEM
IC6101
COFDEM
DRX3975D-QI-B1-K

# 4.12 TANSHI ASSY

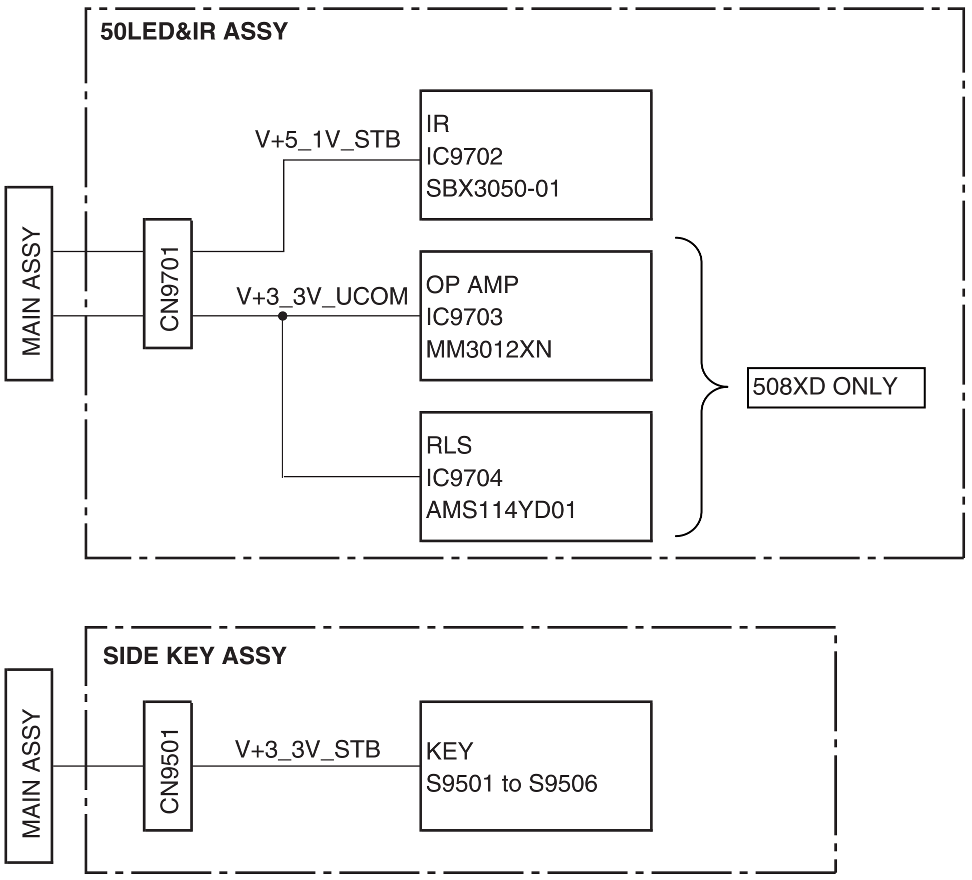
## TANSHI ASSY


IO6
+16.5V
IO5
+8V
+3.3V
+16.5V
+12V
REGULATOR
IC9181
NJM78M12DL1A
+3.3V
+1.8V
REGULATOR
IC9191
NJM2846DL3
+16.5V
PWM
DIGITAL AMP IC
IC9201
TAS5122DCA
MSP IC
IC9101
MSP5651M
+3.3V
+1.8V
OPT_OUT
OPTICAL OUT
OUTPUT(AUDIO)
SUB WOOFER OUT
AUDIO OUT
SCART OUT
OUTPUT(VIDEO)
IO4
for MAIN ASSY
INPUT(AUDIO)
INPUT(VIDEO)
INPUT1
INPUT2
INPUT3
INPUT5
PC AUDIO
IO1
INPUT5
for SIDE IO ASSY
IO2
HP
for SIDE IO ASSY
LPF
DC
DETECT
BLOCK
IO3
AIR_SIF
SCL
SDA
RST_MSP
I2S_EMMA
SPDIF_EMMA
SPDIF_HDMI
OTW
A_NG_B
R_OUT+
R_OUT-
L_OUT-
L_OUT+
for MAIN ASSY
IO8
IO9
R OUT
L OUT
SP TERMINAL
42 inch only
50 inch only

## 4.13 50XGA LED and 50LED&IR ASSYS


FAN
M4
USB
M21
POWER SUPPLY UNIT
P9
P8
M2
M3
DIGITAL ASSY
D11
M1
M11
M15
MAIN ASSY
M25
SR1
232C ASSY
M9
M8
M6
I05
I03
I04
TANSHI ASSY
LED_ON
LED_OFF
50XGA LED ASSY
50LED&IR ASSY

## 4.14 POWER SUPPLY BLOCK of 50LED&IR and SIDE KEY ASSYS

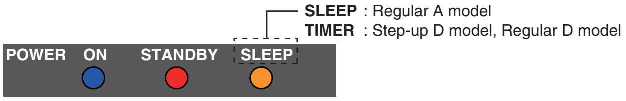

50LED&IR ASSY
MAIN ASSY
CN9701
V+5_1V_STB
IR
IC9702
SBX3050-01
V+3_3V_UCOM
OP AMP
IC9703
MM3012XN
RLS
IC9704
AMS114YD01
508XD ONLY
SIDE KEY ASSY
MAIN ASSY
CN9501
V+3_3V_STB
KEY
S9501 to S9506

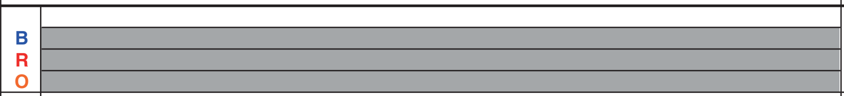
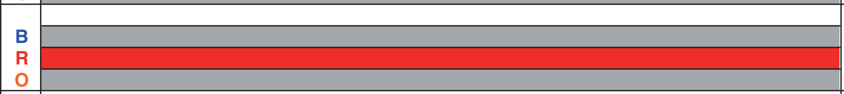
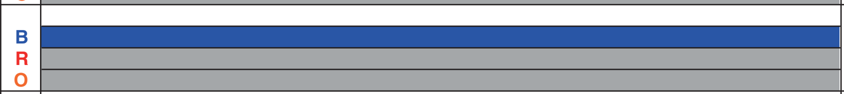
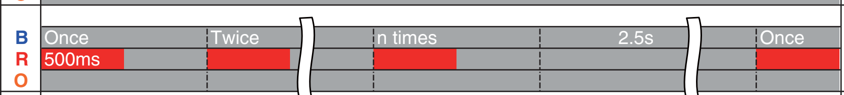
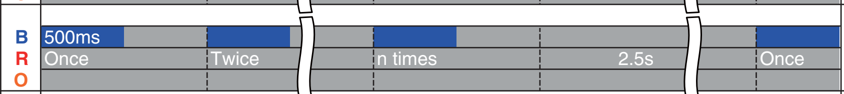
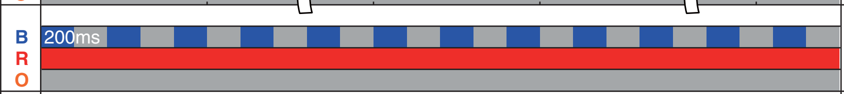
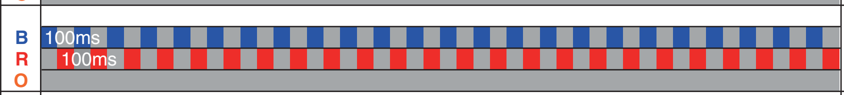
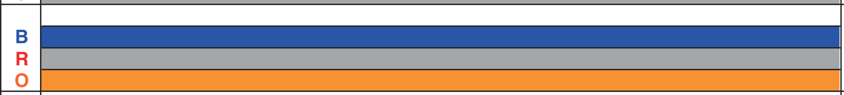
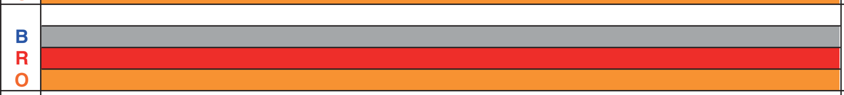
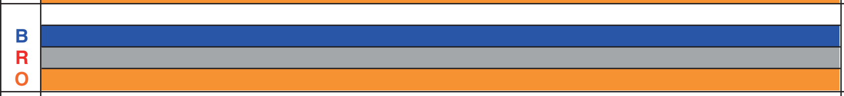
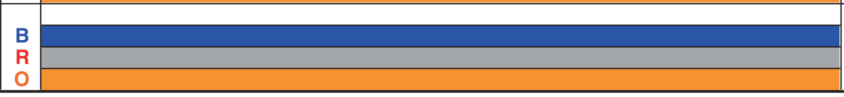
# 5. DIAGNOSIS

## 5.1 POWER SUPPLY OPERATION

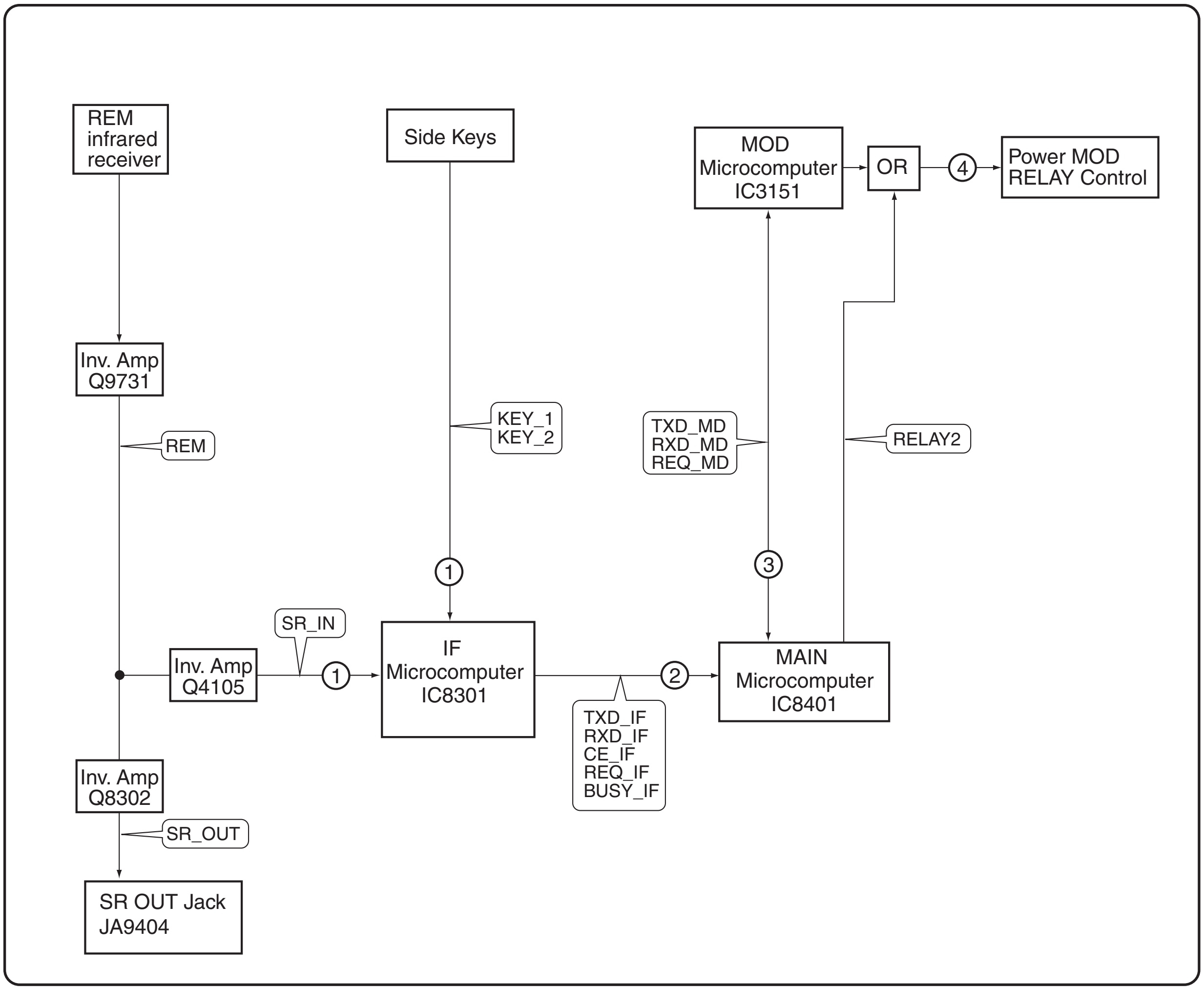
### 5.1.1 LED DISPLAY INFORMATION

**LED Pattern**


SLEEP : Regular A model
TIMER : Step-up D model, Regular D model
POWER
ON
STANDBY
SLEEP

| State | LED Pattern | Remarks |
|---|---|---|
| AC OFF or Main power switch OFF |  | |
| Standby power management |  | |
| Power ON (Screen ON) |  | |
| Power-down |  B<br>R<br>O<br>Once<br>Twice<br>n times<br>2.5s<br>Once<br>500ms | |
| Shutdown |  B<br>R<br>O<br>500ms<br>Once<br>Twice<br>n times<br>2.5s<br>Once | |
| No digital adjustment data copied for backup |  | The LEDs flash only while the panel is turned on. |
| In the process of rewriting the program of the microcomputer |  B<br>R<br>O<br>100ms<br>100ms | |
| During factory operation |  | |
| During reservation video recording (Unit: Standby) |  | Step-up D model, Regular D model only |
| During reservation video recording (Unit: ON) |  | Step-up D model, Regular D model only |
| Sleep timer |  | Regular A model only |

## 5.1.2 POWER ON SEQUENCE


REM infrared receiver
Side Keys
MOD Microcomputer IC3151
OR
④
Power MOD RELAY Control
Inv. Amp Q9731
REM
KEY_1
KEY_2
TXD_MD
RXD_MD
REQ_MD
RELAY2
①
③
SR_IN
Inv. Amp Q4105
①
IF Microcomputer IC8301
②
MAIN Microcomputer IC8401
TXD_IF
RXD_IF
CE_IF
REQ_IF
BUSY_IF
Inv. Amp Q8302
SR_OUT
SR OUT Jack JA9404

① : The remote control (or KEY) signal is input to the IF microcomputer.
② : The IF microcomputer sends the operation data of the remote control unit (or KEY) to the main microcomputer.
③ : The main microcomputer issues a startup command (PON) to the MOD microcomputer.
④ : The relay is controlled with logical OR interpretation of control signals by the main microcomputer and module (MOD) microcomputer.

## 5.1.3 DETAILS OF POWER ON SEQUENCE

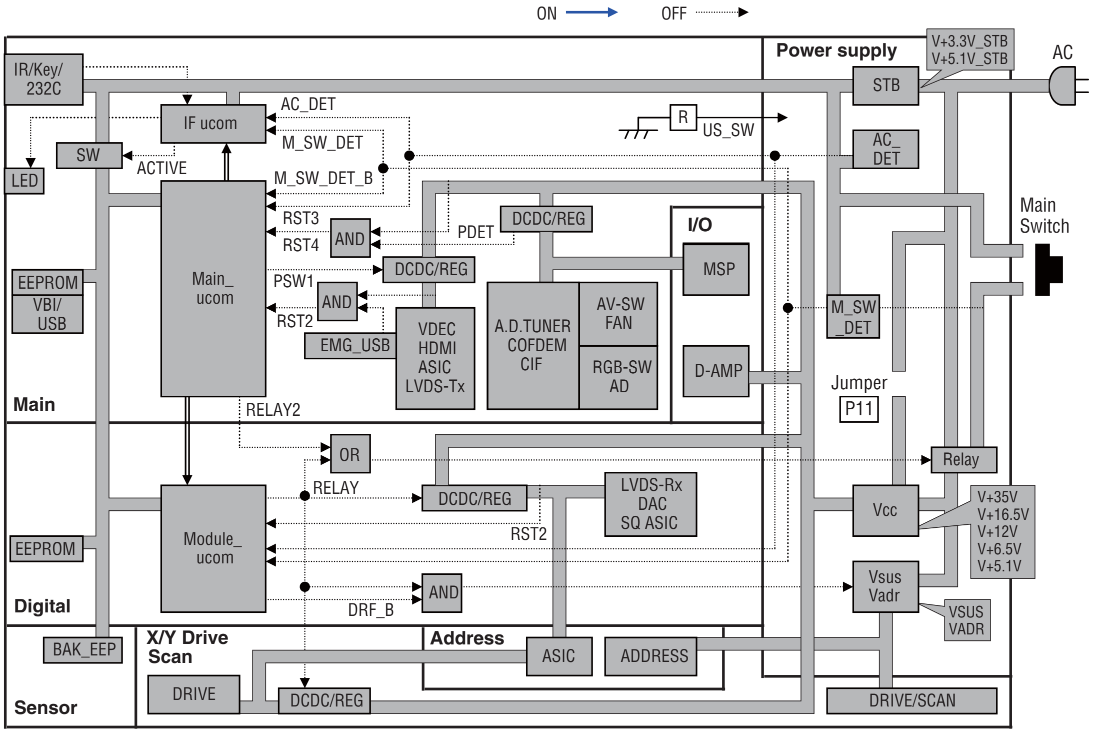
### Power supply status - AC off

Microcomputer
output port state

| | |
|---|---|
| IF: ACTIVE | OFF |
| Main: RELAY2 | OFF |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer
input port state

| | |
|---|---|
| Main: RST4 | OFF |
| Main: RST2 | OFF |
| Module: RST2 | OFF |


ON
OFF
IR/Key/ 232C
IF ucom
AC_DET
M_SW_DET
M_SW_DET_B
SW
ACTIVE
LED
R
US_SW
Power supply
V+3.3V_STB V+5.1V_STB
AC
STB
AC_ DET
Main Switch
RST3
RST4
AND
PDET
DCDC/REG
I/O
MSP
Main_ ucom
PSW1
AND
RST2
DCDC/REG
EEPROM
VBI/ USB
EMG_USB
VDEC HDMI ASIC LVDS-Tx
A.D.TUNER COFDEM CIF
AV-SW FAN
RGB-SW AD
D-AMP
M_SW _DET
Jumper
P11
Main
RELAY2
OR
Relay
RELAY
DCDC/REG
LVDS-Rx DAC SQ ASIC
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
EEPROM
Module_ ucom
RST2
Vsus Vadr
AND
VSUS VADR
DRF_B
Digital
BAK_EEP
X/Y Drive Scan
Address
ASIC
ADDRESS
DRIVE
DCDC/REG
DRIVE/SCAN
Sensor

The state of AC cord is pulled out.

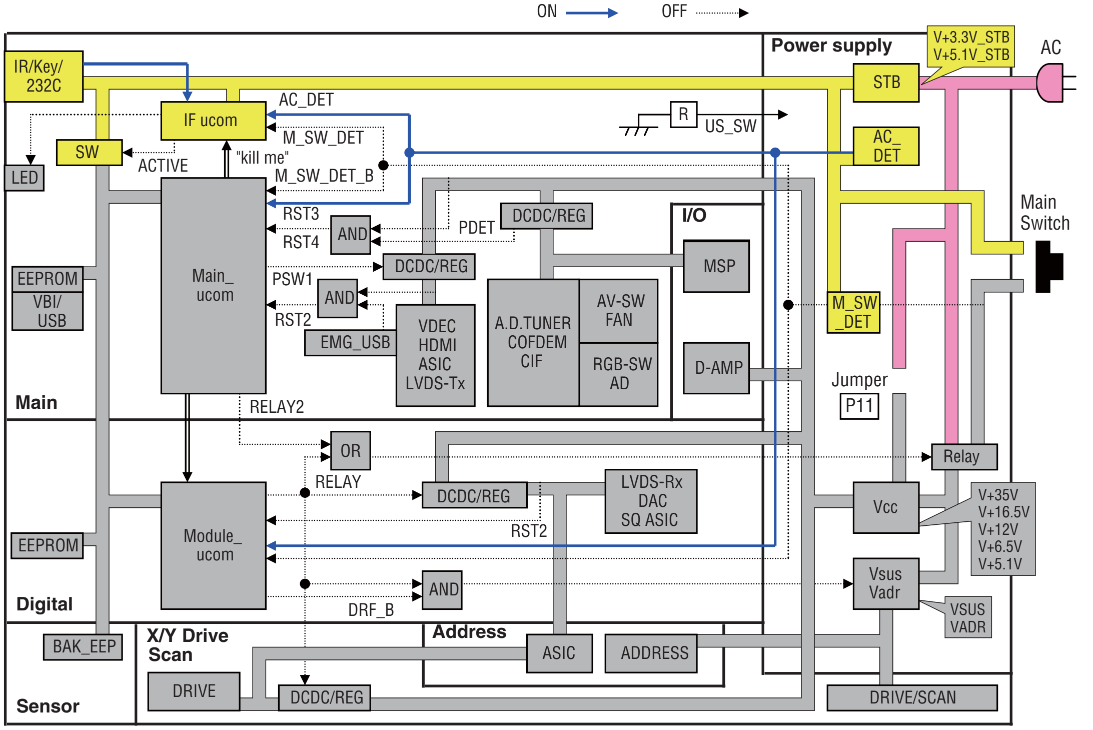
### Power supply status - Passive standby (Main switch off)

Microcomputer
output port state

| | |
|---|---|
| IF: ACTIVE | OFF |
| Main: RELAY2 | OFF |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer
input port state

| | |
|---|---|
| Main: RST4 | OFF |
| Main: RST2 | OFF |
| Module: RST2 | OFF |


ON
OFF
IR/Key/ 232C
IF ucom
AC_DET
M_SW_DET
"kill me"
M_SW_DET_B
SW
ACTIVE
LED
R
US_SW
Power supply
V+3.3V_STB V+5.1V_STB
AC
STB
AC_ DET
Main Switch
RST3
RST4
AND
PDET
DCDC/REG
I/O
MSP
Main_ ucom
PSW1
AND
RST2
DCDC/REG
EEPROM
VBI/ USB
EMG_USB
VDEC HDMI ASIC LVDS-Tx
A.D.TUNER COFDEM CIF
AV-SW FAN
RGB-SW AD
D-AMP
M_SW _DET
Jumper
P11
Main
RELAY2
OR
Relay
RELAY
DCDC/REG
LVDS-Rx DAC SQ ASIC
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
EEPROM
Module_ ucom
RST2
Vsus Vadr
AND
VSUS VADR
DRF_B
Digital
BAK_EEP
X/Y Drive Scan
Address
ASIC
ADDRESS
DRIVE
DCDC/REG
DRIVE/SCAN
Sensor

The user operation is invalid. (All LED: OFF)
Among standby power devices, only the IF microcomputer periphery operates.

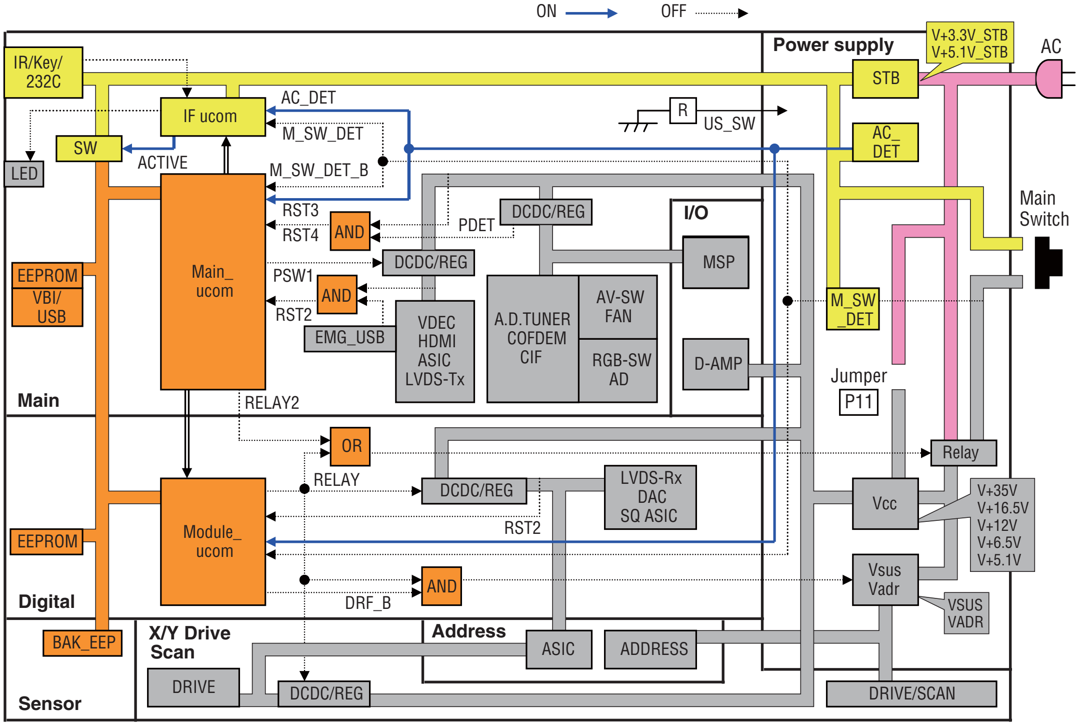
## Power supply status - Active standby (Main switch off)

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | **ON** |
| Main: RELAY2 | OFF |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | OFF |
| Main: RST2 | OFF |
| Module: RST2 | OFF |


ON
OFF
IR/Key/ 232C
IF ucom
AC_DET
M_SW_DET
M_SW_DET_B
SW
ACTIVE
LED
R
US_SW
Power supply
V+3.3V_STB
V+5.1V_STB
AC
STB
AC_ DET
Main Switch
M_SW _DET
Jumper
P11
Relay
Vcc
Vsus Vadr
V+35V V+16.5V V+12V V+6.5V V+5.1V
VSUS VADR
DRIVE/SCAN
EEPROM
VBI/ USB
Main_ ucom
RST3
RST4
AND
PDET
DCDC/REG
PSW1
RST2
EMG_USB
VDEC HDMI ASIC LVDS-Tx
A.D.TUNER COFDEM CIF
AV-SW FAN
RGB-SW AD
I/O
MSP
D-AMP
Main
RELAY2
OR
RELAY
LVDS-Rx DAC SQ ASIC
Module_ ucom
EEPROM
AND
DRF_B
Digital
BAK_EEP
X/Y Drive Scan
DRIVE
DCDC/REG
Address
ASIC
ADDRESS
Sensor

The user operation is invalid. (All LED: OFF)
Standby power devices (periphery of IF/Main/Module microcomputer) operate.

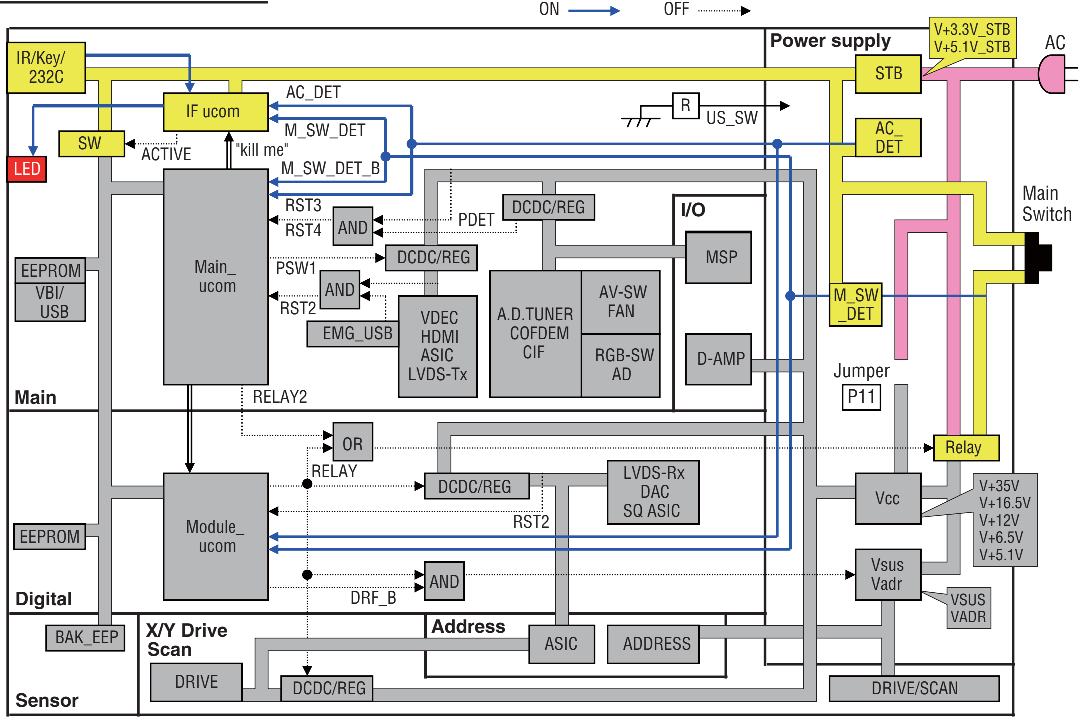
## Power supply status - Passive standby

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | OFF |
| Main: RELAY2 | OFF |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | OFF |
| Main: RST2 | OFF |
| Module: RST2 | OFF |


ON
OFF
IR/Key/ 232C
IF ucom
AC_DET
M_SW_DET
M_SW_DET_B
"kill me"
SW
ACTIVE
LED
R
US_SW
Power supply
V+3.3V_STB
V+5.1V_STB
AC
STB
AC_ DET
Main Switch
M_SW _DET
Jumper
P11
Relay
Vcc
Vsus Vadr
V+35V V+16.5V V+12V V+6.5V V+5.1V
VSUS VADR
DRIVE/SCAN
EEPROM
VBI/ USB
Main_ ucom
RST3
RST4
AND
PDET
DCDC/REG
PSW1
RST2
EMG_USB
VDEC HDMI ASIC LVDS-Tx
A.D.TUNER COFDEM CIF
AV-SW FAN
RGB-SW AD
I/O
MSP
D-AMP
Main
RELAY2
OR
RELAY
LVDS-Rx DAC SQ ASIC
Module_ ucom
EEPROM
AND
DRF_B
Digital
BAK_EEP
X/Y Drive Scan
DRIVE
DCDC/REG
Address
ASIC
ADDRESS
Sensor

Remote control unit waiting state. (Red LED: ON)
Among standby power devices, only the IF microcomputer periphery operates.

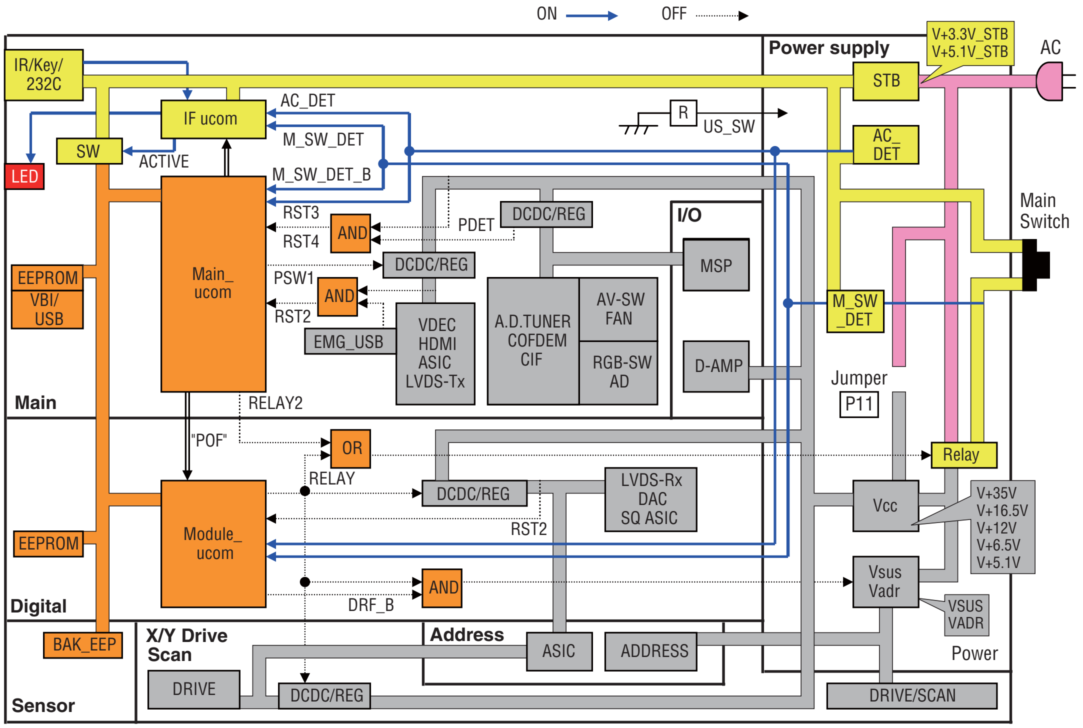
## Power supply status - Active standby

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | **ON** |
| Main: RELAY2 | OFF |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | OFF |
| Main: RST2 | OFF |
| Module: RST2 | OFF |


ON
OFF
IR/Key/ 232C
IF ucom
AC_DET
M_SW_DET
M_SW_DET_B
SW
ACTIVE
LED
Power supply
STB
V+3.3V_STB V+5.1V_STB
AC
R
US_SW
AC_ DET
Main Switch
Main_ ucom
RST3
RST4
AND
PDET
DCDC/REG
I/O
PSW1
RST2
EMG_USB
EEPROM
VBI/ USB
VDEC HDMI ASIC LVDS-Tx
A.D.TUNER COFDEM CIF
AV-SW FAN
RGB-SW AD
MSP
D-AMP
M_SW _DET
Jumper
P11
Main
RELAY2
"POF"
OR
RELAY
Relay
LVDS-Rx DAC SQ ASIC
Module_ ucom
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
Vsus Vadr
VSUS VADR
DRF_B
Digital
X/Y Drive Scan
Address
ASIC
ADDRESS
Power
BAK_EEP
DRIVE
DRIVE/SCAN
Sensor

Remote control unit waiting state. (Red LED: ON)
Standby power devices (periphery of IF/Main/Module microcomputer) operate.

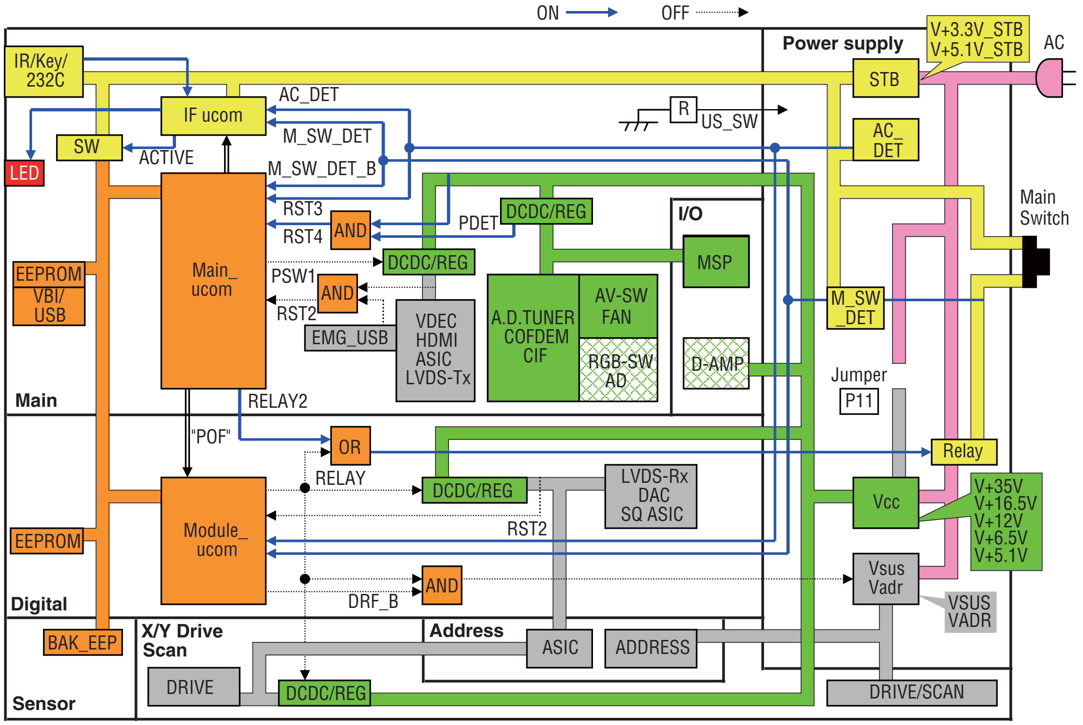
## Power supply status - Functional standby

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | **ON** |
| Main: RELAY2 | **ON** |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | **ON** |
| Main: RST2 | OFF |
| Module: RST2 | OFF |


ON
OFF
IR/Key/ 232C
IF ucom
AC_DET
M_SW_DET
M_SW_DET_B
SW
ACTIVE
LED
Power supply
STB
V+3.3V_STB V+5.1V_STB
AC
R
US_SW
AC_ DET
Main Switch
Main_ ucom
RST3
RST4
AND
PDET
DCDC/REG
I/O
PSW1
RST2
EMG_USB
EEPROM
VBI/ USB
VDEC HDMI ASIC LVDS-Tx
A.D.TUNER COFDEM CIF
AV-SW FAN
RGB-SW AD
MSP
D-AMP
M_SW _DET
Jumper
P11
Main
RELAY2
"POF"
OR
RELAY
Relay
LVDS-Rx DAC SQ ASIC
Module_ ucom
Vcc
V+35V V+16.5V V+12V V+6.5V V+5.1V
Vsus Vadr
VSUS VADR
DRF_B
Digital
X/Y Drive Scan
Address
ASIC
ADDRESS
BAK_EEP
DRIVE
DRIVE/SCAN
Sensor

Remote control unit waiting state. (Red LED: ON)
Standby power device and some Vcc power devices operate.
RGB-SW/AD/D-AMP are electrified, but uses the power-saving mode function of the IC.

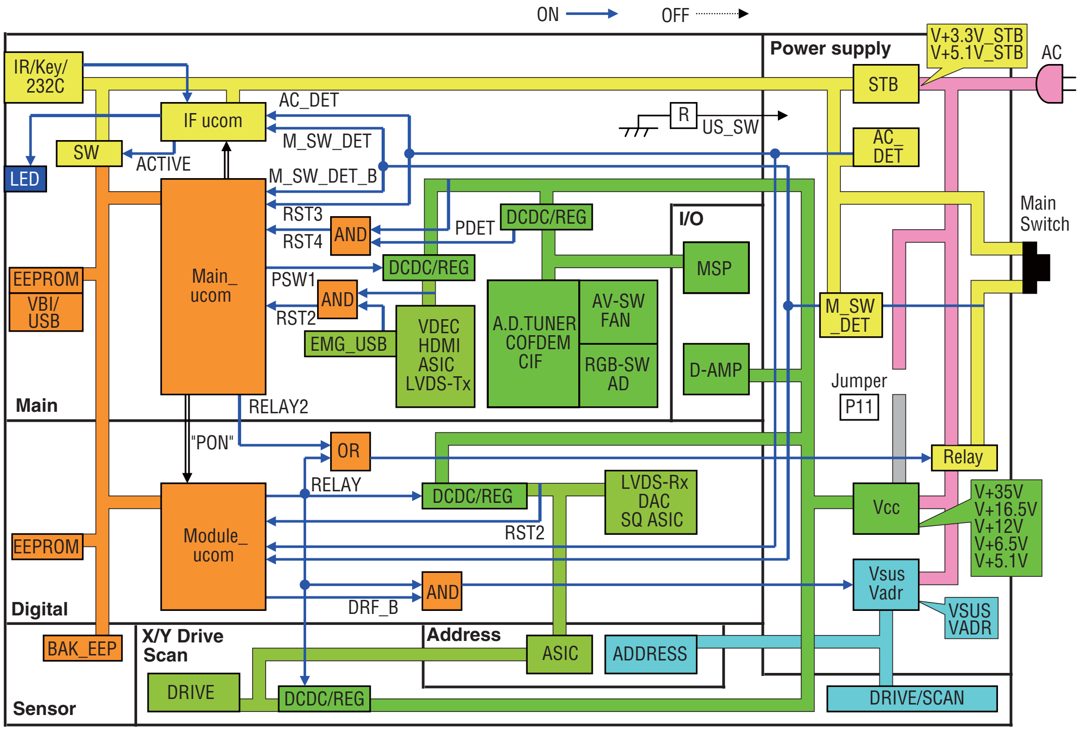
## Power supply status - ON

Microcomputer
output port state

| | |
|---|---|
| IF: ACTIVE | ON |
| Main: RELAY2 | ON |
| Main: PSW1 | ON |
| Module: RELAY | ON |
| Module: DRF_B | ON |

Microcomputer
input port state

| | |
|---|---|
| Main: RST4 | ON |
| Main: RST2 | ON |
| Module: RST2 | ON |

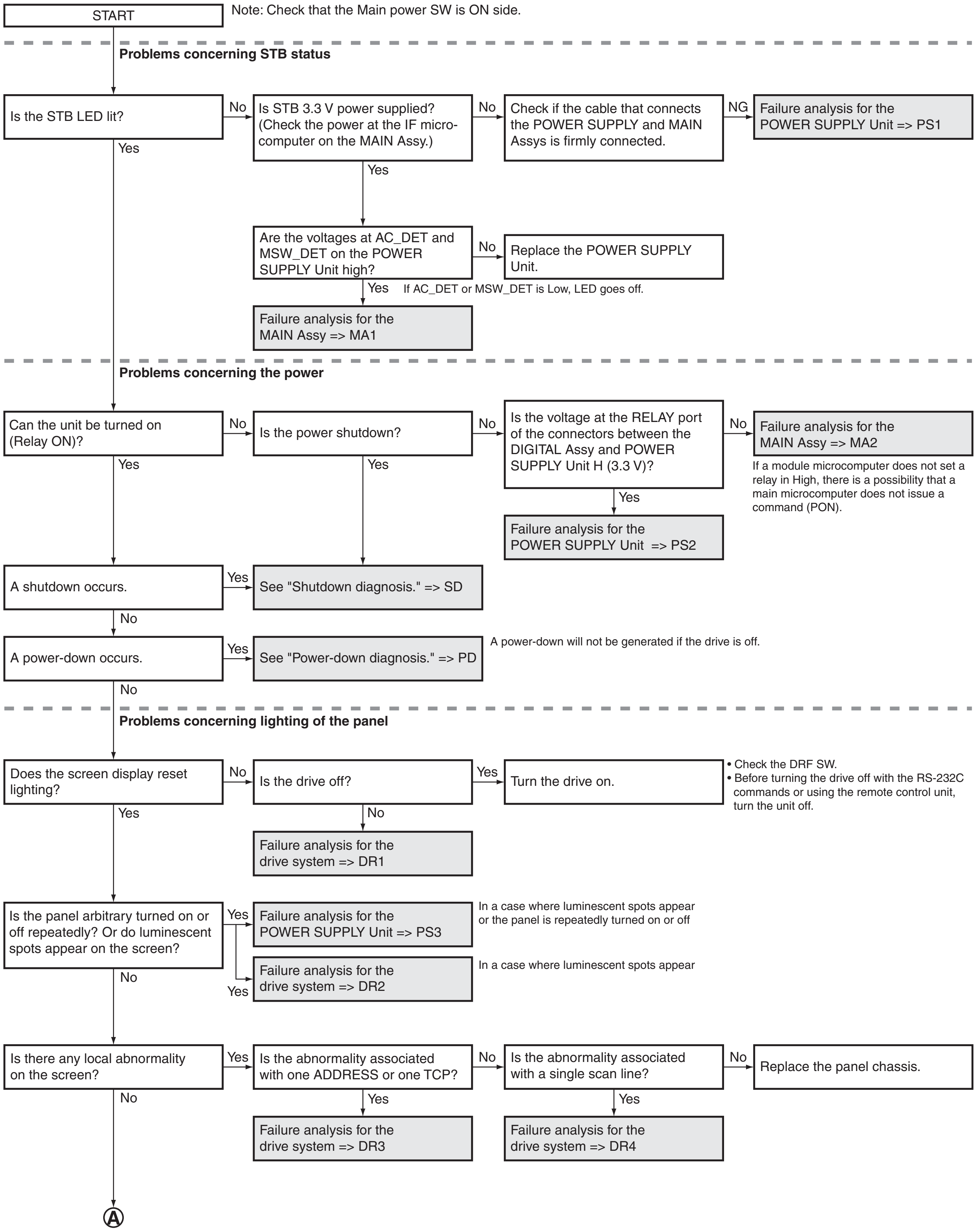

ON
OFF
Power supply
V+3.3V_STB
V+5.1V_STB
AC
IR/Key/
232C
IF ucom
AC_DET
M_SW_DET
M_SW_DET_B
SW
ACTIVE
LED
R
US_SW
STB
AC_
DET
Main
Switch
Main_
ucom
RST3
RST4
AND
PDET
DCDC/REG
I/O
MSP
DCDC/REG
PSW1
AND
RST2
EMG_USB
VDEC
HDMI
ASIC
LVDS-Tx
A.D.TUNER
COFDEM
CIF
AV-SW
FAN
RGB-SW
AD
D-AMP
M_SW
_DET
Jumper
P11
EEPROM
VBI/
USB
Main
RELAY2
"PON"
OR
Relay
RELAY
DCDC/REG
LVDS-Rx
DAC
SQ ASIC
Vcc
V+35V
V+16.5V
V+12V
V+6.5V
V+5.1V
EEPROM
Module_
ucom
RST2
Vsus
Vadr
VSUS
VADR
AND
DRF_B
Digital
BAK_EEP
X/Y Drive
Scan
Address
ASIC
ADDRESS
DRIVE
DCDC/REG
DRIVE/SCAN
Sensor

A state when it displays a picture on the PDP. (Blue LED: ON)
All devices are electrified.

# 5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS

## 5.2.1 WHOLE UNIT

### Flowchart of Failure Analysis for The Whole Unit


START
Problems concerning STB status
Is the STB LED lit?
No
Yes
Is STB 3.3 V power supplied? (Check the power at the IF micro-computer on the MAIN Assy.)
No
Yes
Check if the cable that connects the POWER SUPPLY and MAIN Assys is firmly connected.
NG
Failure analysis for the POWER SUPPLY Unit => PS1
Are the voltages at AC_DET and MSW_DET on the POWER SUPPLY Unit high?
No
Replace the POWER SUPPLY Unit.
Yes
Failure analysis for the MAIN Assy => MA1
Problems concerning the power
Can the unit be turned on (Relay ON)?
No
Yes
Is the power shutdown?
No
Yes
Is the voltage at the RELAY port of the connectors between the DIGITAL Assy and POWER SUPPLY Unit H (3.3 V)?
No
Yes
Failure analysis for the MAIN Assy => MA2
Failure analysis for the POWER SUPPLY Unit => PS2
A shutdown occurs.
Yes
See "Shutdown diagnosis." => SD
No
A power-down occurs.
Yes
See "Power-down diagnosis." => PD
No
Problems concerning lighting of the panel
Does the screen display reset lighting?
No
Yes
Is the drive off?
Yes
Turn the drive on.
No
Failure analysis for the drive system => DR1
Is the panel arbitrary turned on or off repeatedly? Or do luminescent spots appear on the screen?
Yes
Failure analysis for the POWER SUPPLY Unit => PS3
Yes
Failure analysis for the drive system => DR2
No
Is there any local abnormality on the screen?
Yes
Is the abnormality associated with one ADDRESS or one TCP?
No
Is the abnormality associated with a single scan line?
No
Replace the panel chassis.
Yes
Failure analysis for the drive system => DR3
Yes
Failure analysis for the drive system => DR4
No
A

Note: Check that the Main power SW is ON side.

If AC_DET or MSW_DET is Low, LED goes off.

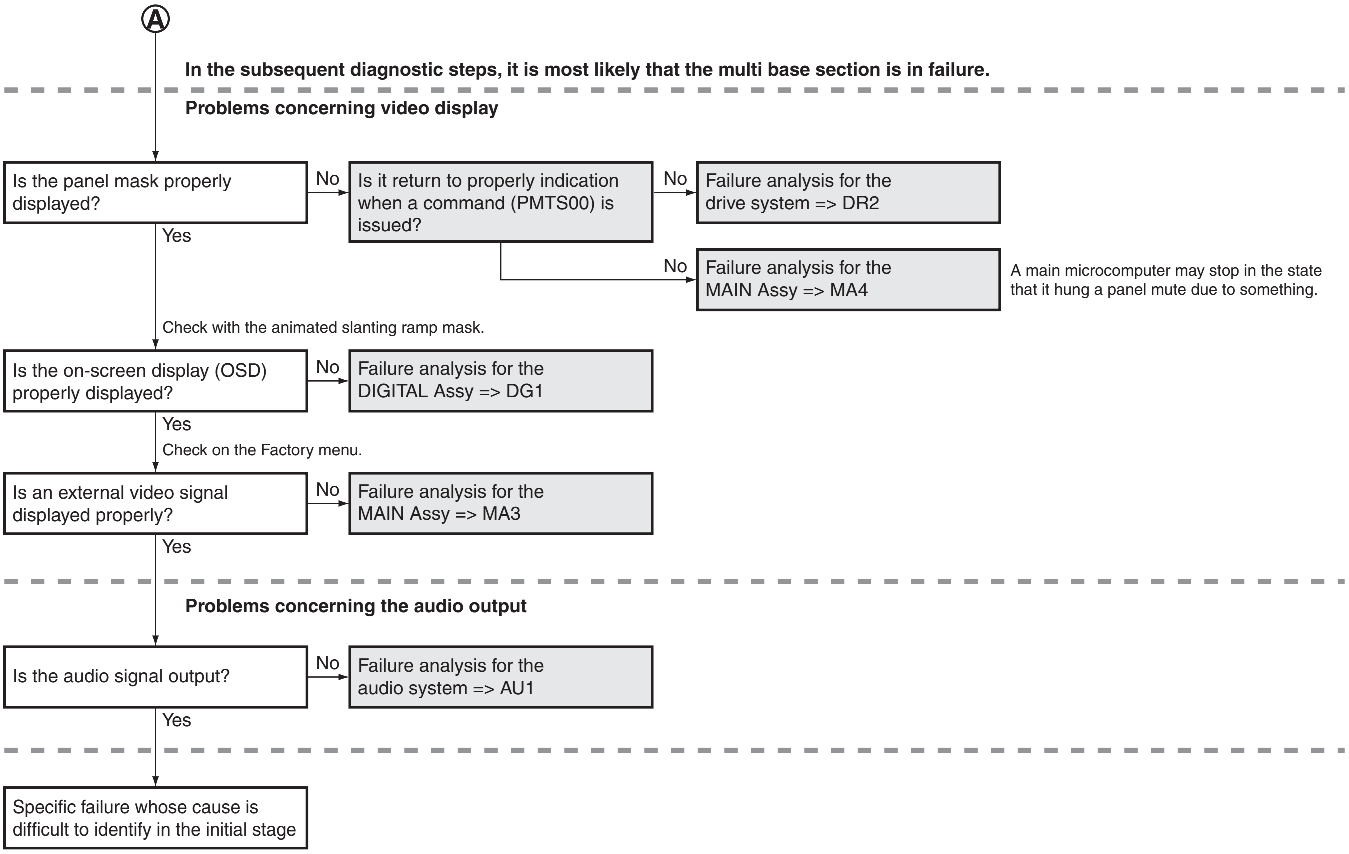
If a module microcomputer does not set a relay in High, there is a possibility that a main microcomputer does not issue a command (PON).

A power-down will not be generated if the drive is off.

- Check the DRF SW.
- Before turning the drive off with the RS-232C commands or using the remote control unit, turn the unit off.

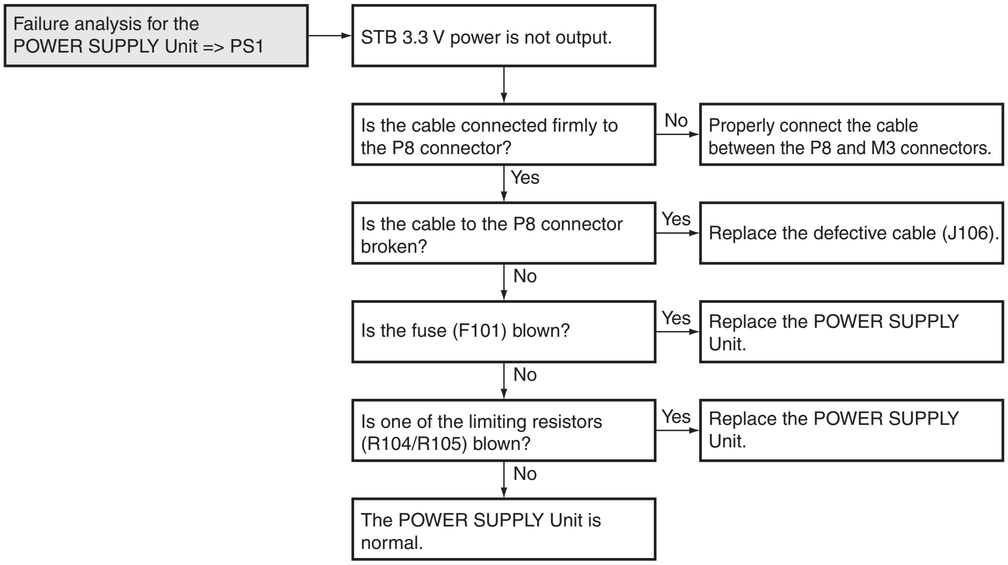
In a case where luminescent spots appear or the panel is repeatedly turned on or off

In a case where luminescent spots appear


A
In the subsequent diagnostic steps, it is most likely that the multi base section is in failure.
Problems concerning video display
Is the panel mask properly displayed?
No
Is it return to properly indication when a command (PMTS00) is issued?
No
Failure analysis for the drive system => DR2
No
Failure analysis for the MAIN Assy => MA4
A main microcomputer may stop in the state that it hung a panel mute due to something.
Yes
Check with the animated slanting ramp mask.
Is the on-screen display (OSD) properly displayed?
No
Failure analysis for the DIGITAL Assy => DG1
Yes
Check on the Factory menu.
Is an external video signal displayed properly?
No
Failure analysis for the MAIN Assy => MA3
Yes
Problems concerning the audio output
Is the audio signal output?
No
Failure analysis for the audio system => AU1
Yes
Specific failure whose cause is difficult to identify in the initial stage

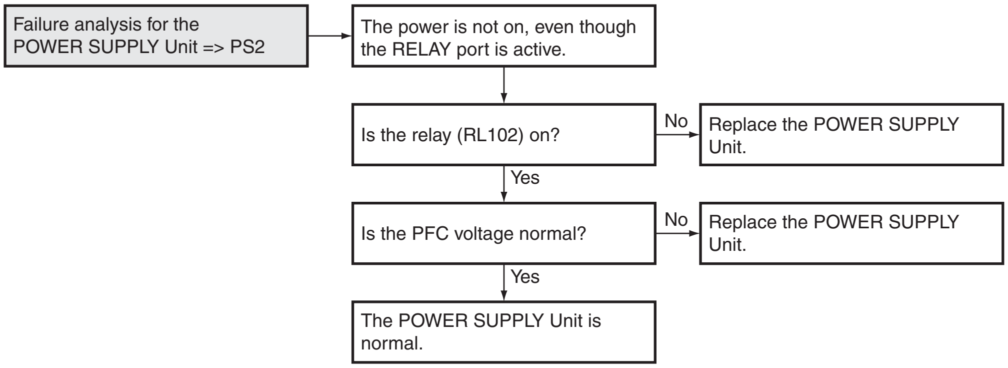
## 5.2.2 POWER SUPPLY UNIT

### Flowchart of Failure Analysis for The POWER SUPPLY Unit


Failure analysis for the POWER SUPPLY Unit => PS1
STB 3.3 V power is not output.
Is the cable connected firmly to the P8 connector?
No
Properly connect the cable between the P8 and M3 connectors.
Yes
Is the cable to the P8 connector broken?
Yes
Replace the defective cable (J106).
No
Is the fuse (F101) blown?
Yes
Replace the POWER SUPPLY Unit.
No
Is one of the limiting resistors (R104/R105) blown?
Yes
Replace the POWER SUPPLY Unit.
No
The POWER SUPPLY Unit is normal.

Check the voltage at the DIGITAL Assy and POWER SUPPLY Unit.

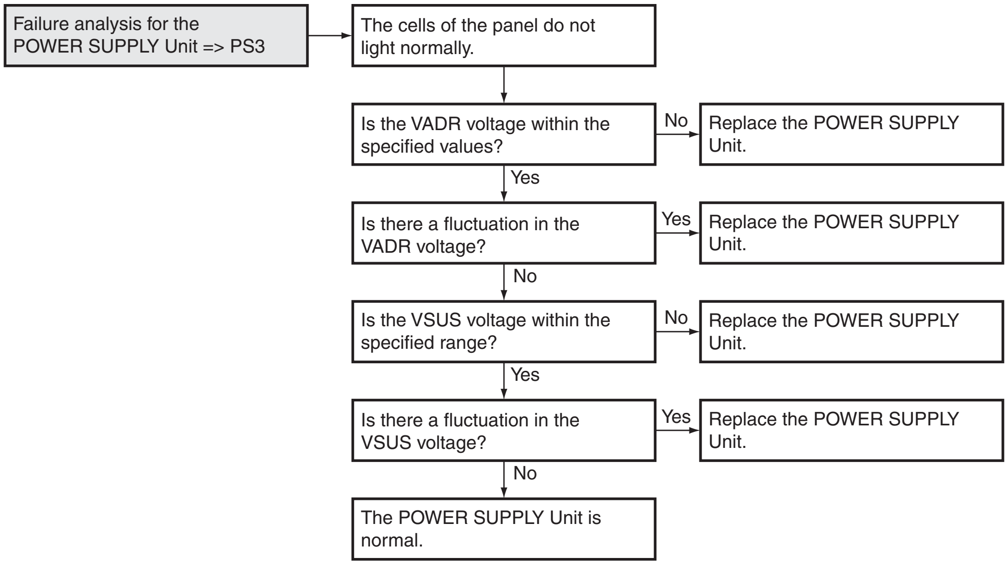
Check the resistance between L102 (lead nearest R104) and the D121 anode, using a tester.


Failure analysis for the POWER SUPPLY Unit => PS2
The power is not on, even though the RELAY port is active.
Is the relay (RL102) on?
No
Replace the POWER SUPPLY Unit.
Yes
Is the PFC voltage normal?
No
Replace the POWER SUPPLY Unit.
Yes
The POWER SUPPLY Unit is normal.

- Check the relay operation at the terminal (Pin 11 of P4). (Voltage: 3.3 V)
- Check the relay sound (click).

- Check the voltage between the D204 cathode and RC101 (negative) terminal.
- The voltage must be around 390 V (failure if it is 340 V or less).

**Caution:** High voltage!


Failure analysis for the POWER SUPPLY Unit => PS3
The cells of the panel do not light normally.
Is the VADR voltage within the specified values?
No
Replace the POWER SUPPLY Unit.
Yes
Is there a fluctuation in the VADR voltage?
Yes
Replace the POWER SUPPLY Unit.
No
Is the VSUS voltage within the specified range?
No
Replace the POWER SUPPLY Unit.
Yes
Is there a fluctuation in the VSUS voltage?
Yes
Replace the POWER SUPPLY Unit.
No
The POWER SUPPLY Unit is normal.

The specified voltage values are between 57 and 63 V.

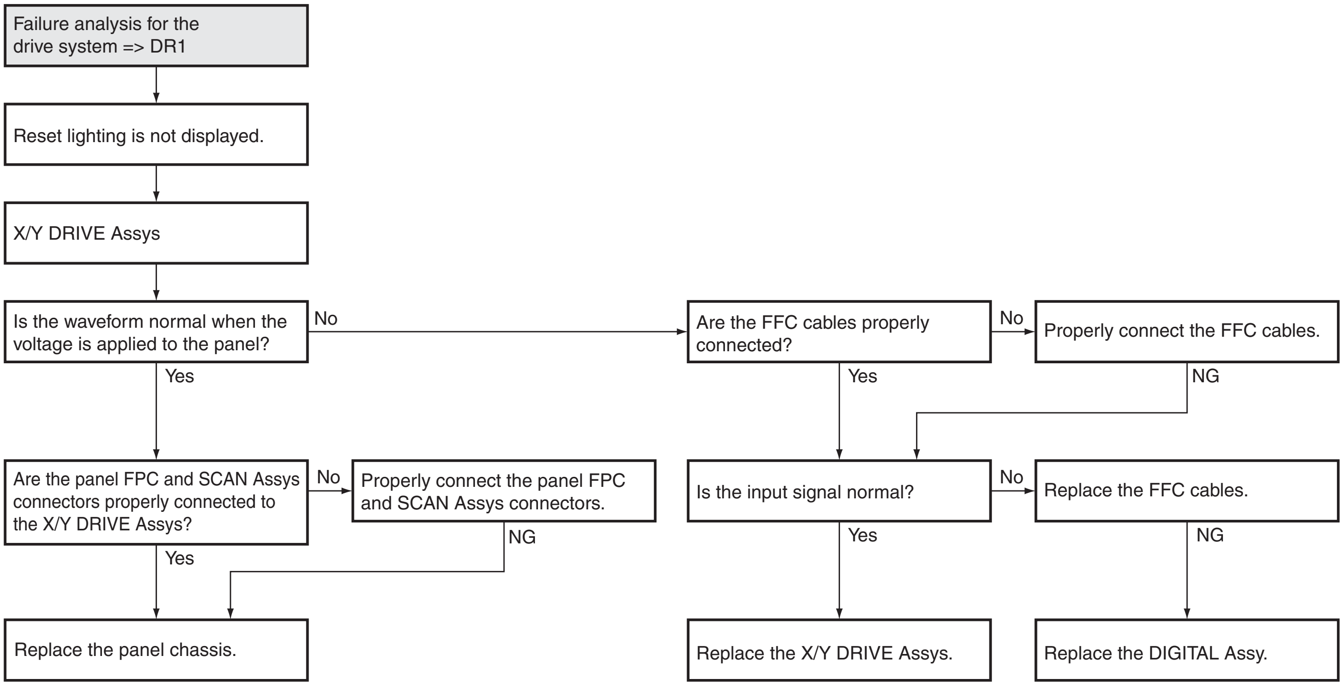
The ripple must be within 5 V.

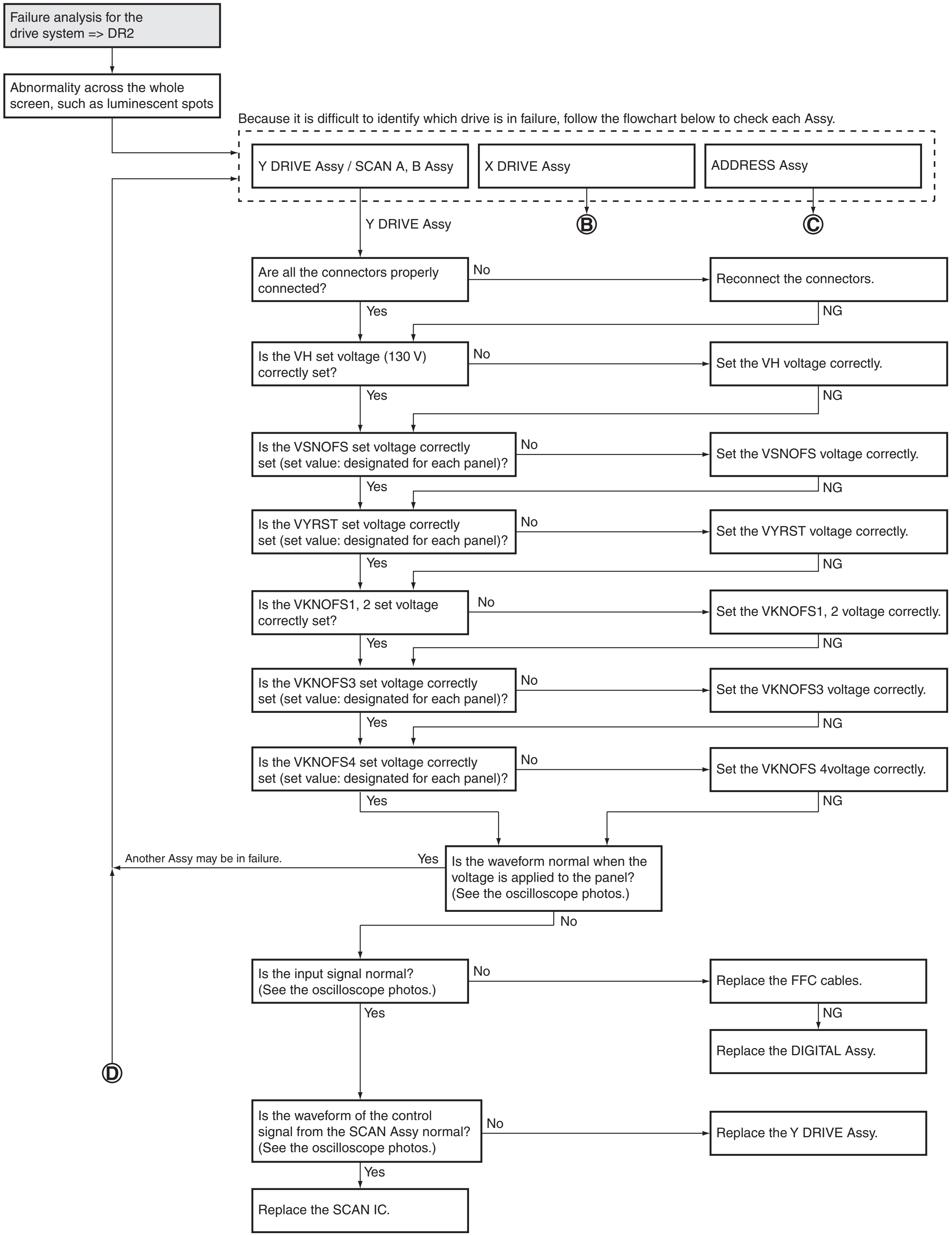
The specified voltage values are between 200 and 210 V (VSU: 125/35°C).

The ripple must be within 10 V.

## 5.2.3 DRIVE ASSY

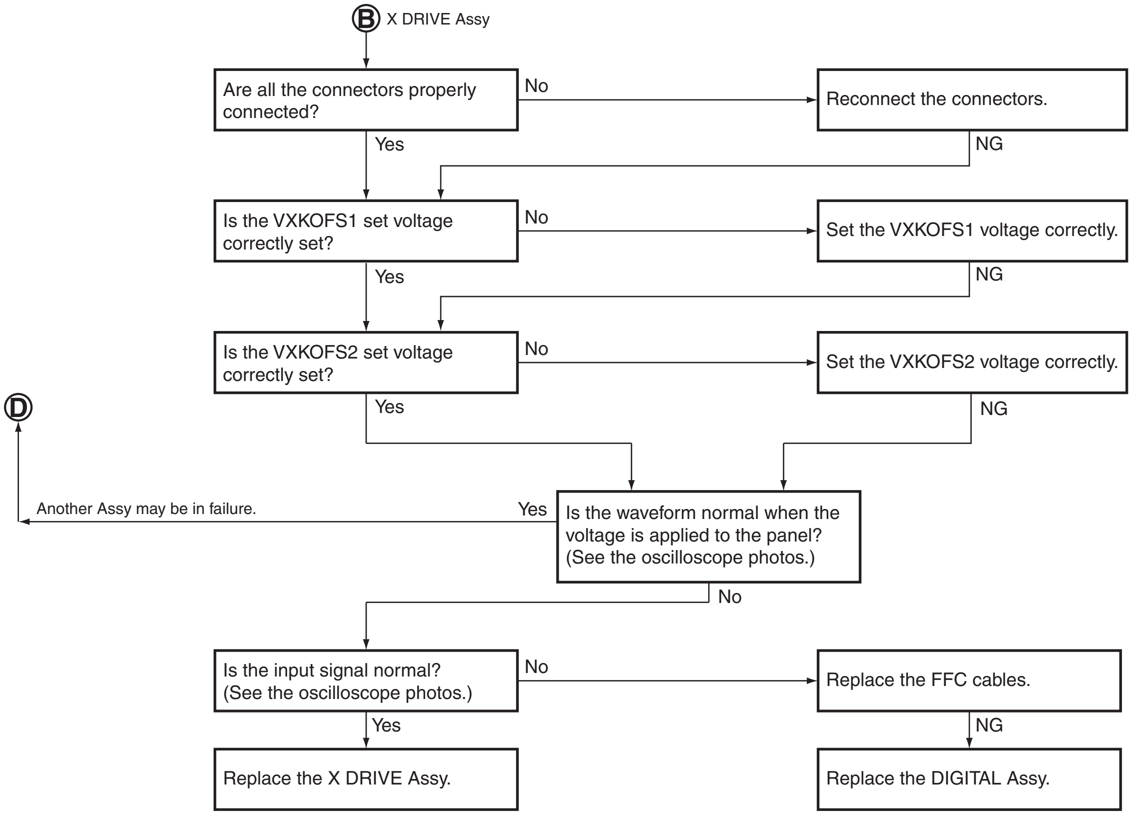
### Flowchart of Failure Analysis for The Drive Assy

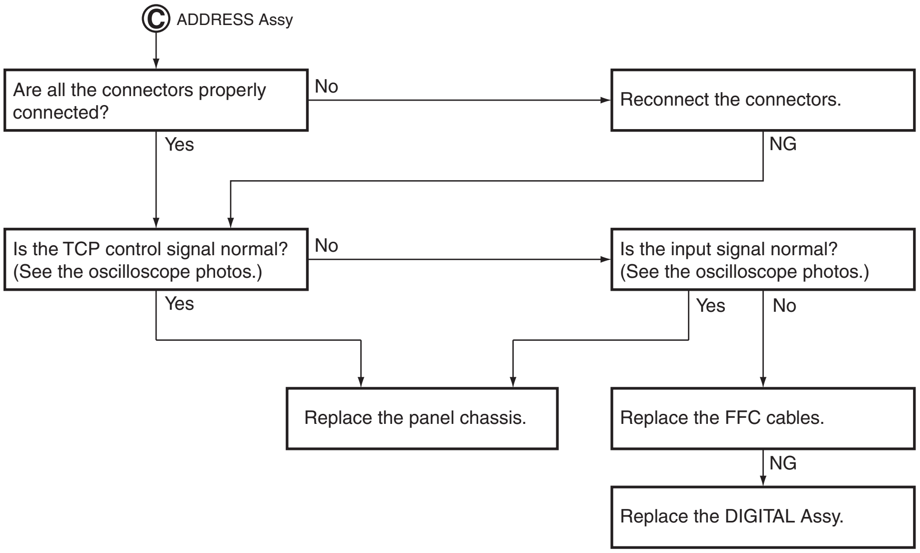

Failure analysis for the drive system => DR1
Reset lighting is not displayed.
X/Y DRIVE Assys
Is the waveform normal when the voltage is applied to the panel?
No
Yes
Are the FFC cables properly connected?
No
Properly connect the FFC cables.
Yes
NG
Are the panel FPC and SCAN Assys connectors properly connected to the X/Y DRIVE Assys?
No
Properly connect the panel FPC and SCAN Assys connectors.
Yes
NG
Is the input signal normal?
No
Replace the FFC cables.
Yes
NG
Replace the panel chassis.
Replace the X/Y DRIVE Assys.
Replace the DIGITAL Assy.

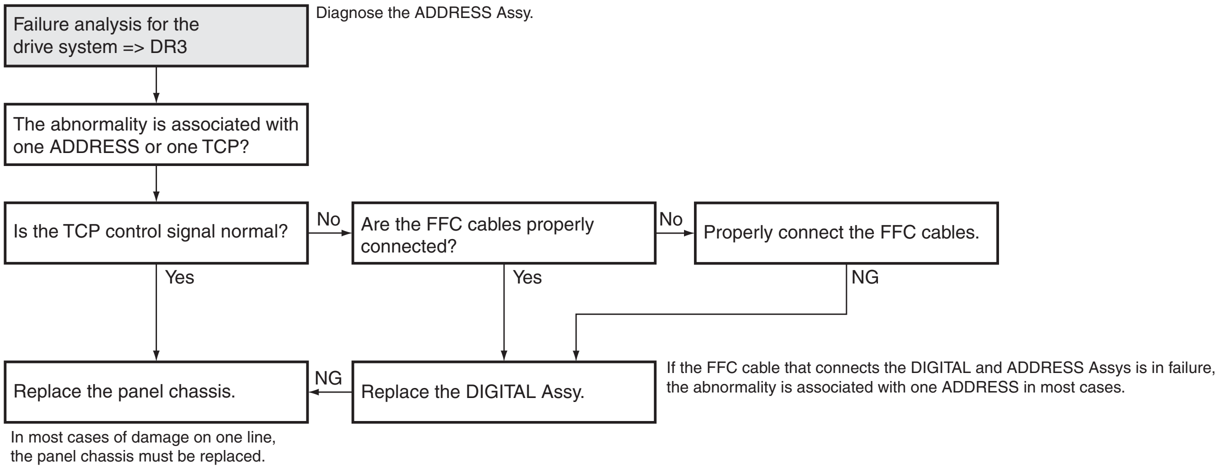


Because it is difficult to identify which drive is in failure, follow the flowchart below to check each Assy.

Failure analysis for the drive system => DR2
Abnormality across the whole screen, such as luminescent spots
Y DRIVE Assy / SCAN A, B Assy
X DRIVE Assy
ADDRESS Assy
Y DRIVE Assy
B
C
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
NG
Is the VH set voltage (130 V) correctly set?
No
Set the VH voltage correctly.
Yes
NG
Is the VSNOFS set voltage correctly set (set value: designated for each panel)?
No
Set the VSNOFS voltage correctly.
Yes
NG
Is the VYRST set voltage correctly set (set value: designated for each panel)?
No
Set the VYRST voltage correctly.
Yes
NG
Is the VKNOFS1, 2 set voltage correctly set?
No
Set the VKNOFS1, 2 voltage correctly.
Yes
NG
Is the VKNOFS3 set voltage correctly set (set value: designated for each panel)?
No
Set the VKNOFS3 voltage correctly.
Yes
NG
Is the VKNOFS4 set voltage correctly set (set value: designated for each panel)?
No
Set the VKNOFS 4voltage correctly.
Yes
NG
Another Assy may be in failure.
Yes
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
No
Replace the FFC cables.
NG
Replace the DIGITAL Assy.
Yes
D
Is the waveform of the control signal from the SCAN Assy normal? (See the oscilloscope photos.)
No
Replace the Y DRIVE Assy.
Yes
Replace the SCAN IC.


B
X DRIVE Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
NG
Is the VXKOFS1 set voltage correctly set?
No
Set the VXKOFS1 voltage correctly.
Yes
NG
Is the VXKOFS2 set voltage correctly set?
No
Set the VXKOFS2 voltage correctly.
D
Yes
NG
Another Assy may be in failure.
Yes
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
No
Replace the FFC cables.
Yes
NG
Replace the X DRIVE Assy.
Replace the DIGITAL Assy.

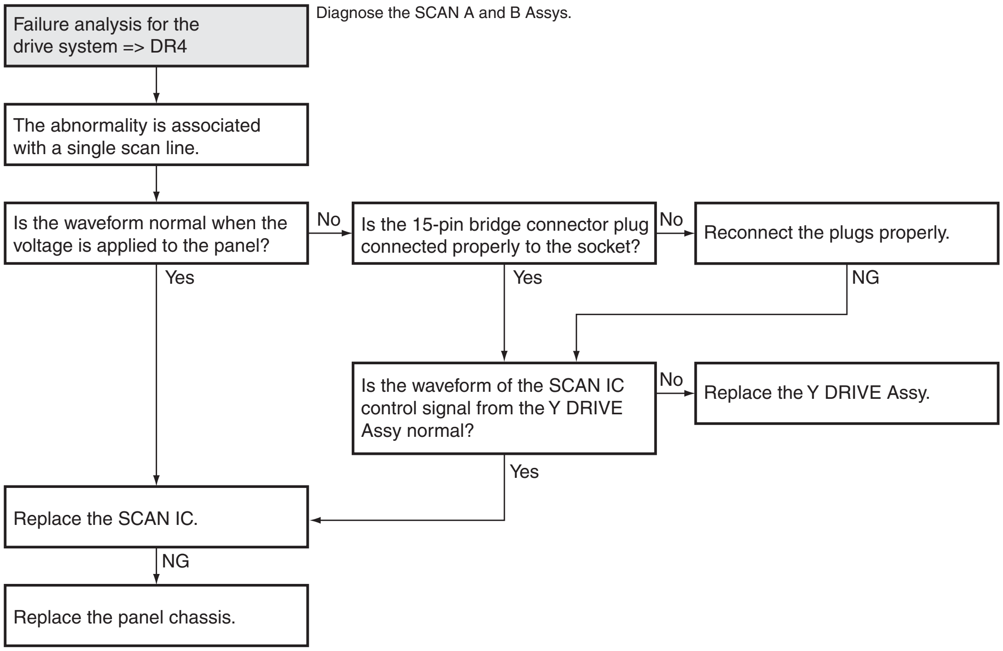

C
ADDRESS Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
NG
Is the TCP control signal normal? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
Yes
Yes
No
Replace the panel chassis.
Replace the FFC cables.
NG
Replace the DIGITAL Assy.


Failure analysis for the drive system => DR3
The abnormality is associated with one ADDRESS or one TCP?
Is the TCP control signal normal?
No
Are the FFC cables properly connected?
No
Properly connect the FFC cables.
Yes
Yes
NG
Replace the panel chassis.
NG
Replace the DIGITAL Assy.

Diagnose the ADDRESS Assy.

If the FFC cable that connects the DIGITAL and ADDRESS Assys is in failure, the abnormality is associated with one ADDRESS in most cases.

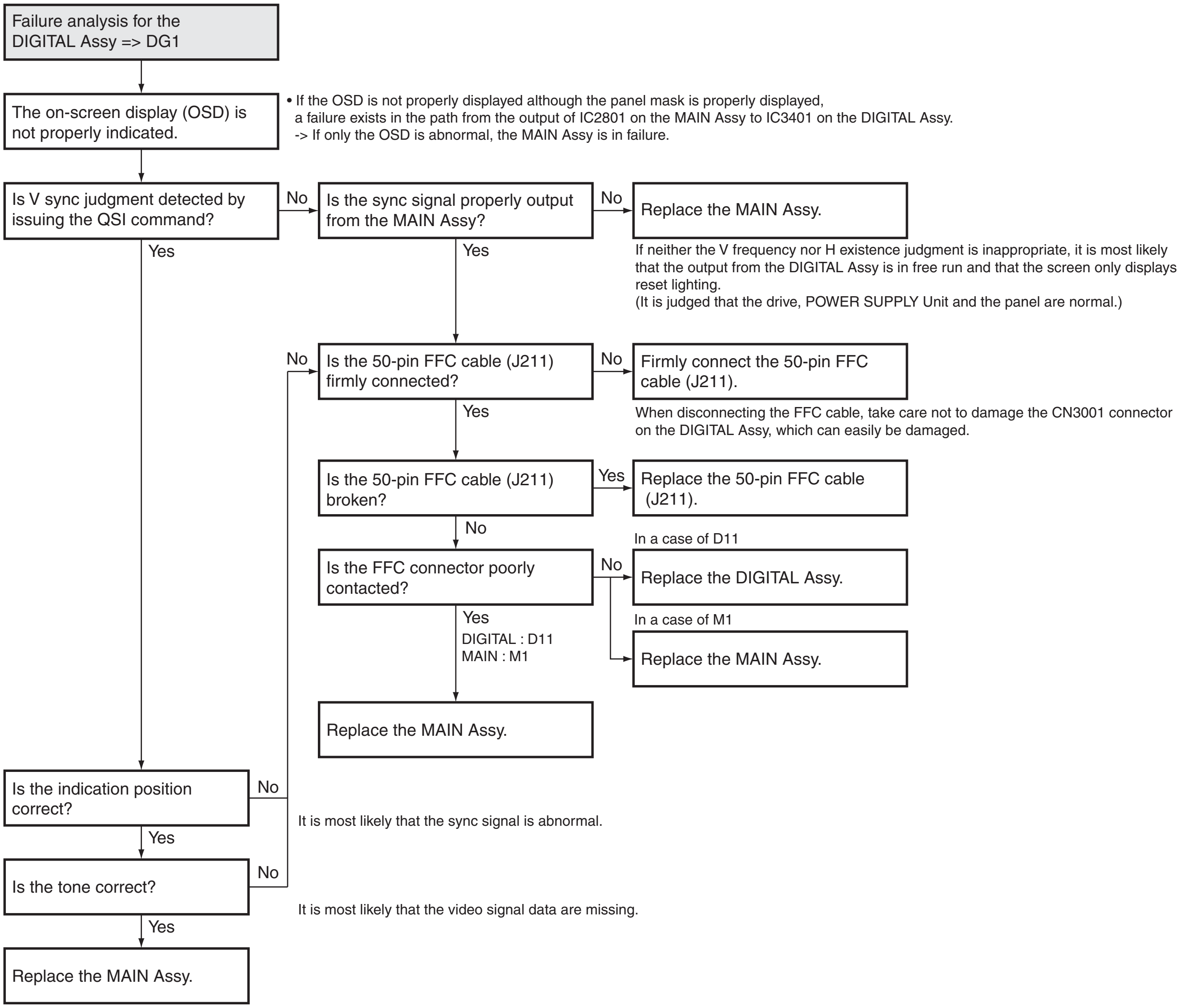
In most cases of damage on one line, the panel chassis must be replaced.


Failure analysis for the drive system => DR4
The abnormality is associated with a single scan line.
Is the waveform normal when the voltage is applied to the panel?
No
Is the 15-pin bridge connector plug connected properly to the socket?
No
Reconnect the plugs properly.
Yes
Yes
NG
Is the waveform of the SCAN IC control signal from the Y DRIVE Assy normal?
No
Replace the Y DRIVE Assy.
Yes
Replace the SCAN IC.
NG
Replace the panel chassis.

Diagnose the SCAN A and B Assys.

## 5.2.4 DIGITAL ASSY

### Flowchart of Failure Analysis for The DIGITAL Assy


Failure analysis for the DIGITAL Assy => DG1
The on-screen display (OSD) is not properly indicated.
Is V sync judgment detected by issuing the QSI command?
No
Is the sync signal properly output from the MAIN Assy?
No
Replace the MAIN Assy.
Yes
Yes
No
Is the 50-pin FFC cable (J211) firmly connected?
No
Firmly connect the 50-pin FFC cable (J211).
Yes
Is the 50-pin FFC cable (J211) broken?
Yes
Replace the 50-pin FFC cable (J211).
No
Is the FFC connector poorly contacted?
No
In a case of D11
Replace the DIGITAL Assy.
In a case of M1
Replace the MAIN Assy.
Yes
DIGITAL : D11
MAIN : M1
Replace the MAIN Assy.
Is the indication position correct?
No
Yes
Is the tone correct?
No
Yes
Replace the MAIN Assy.

- If the OSD is not properly displayed although the panel mask is properly displayed, a failure exists in the path from the output of IC2801 on the MAIN Assy to IC3401 on the DIGITAL Assy.
  -> If only the OSD is abnormal, the MAIN Assy is in failure.

If neither the V frequency nor H existence judgment is inappropriate, it is most likely that the output from the DIGITAL Assy is in free run and that the screen only displays reset lighting.
(It is judged that the drive, POWER SUPPLY Unit and the panel are normal.)

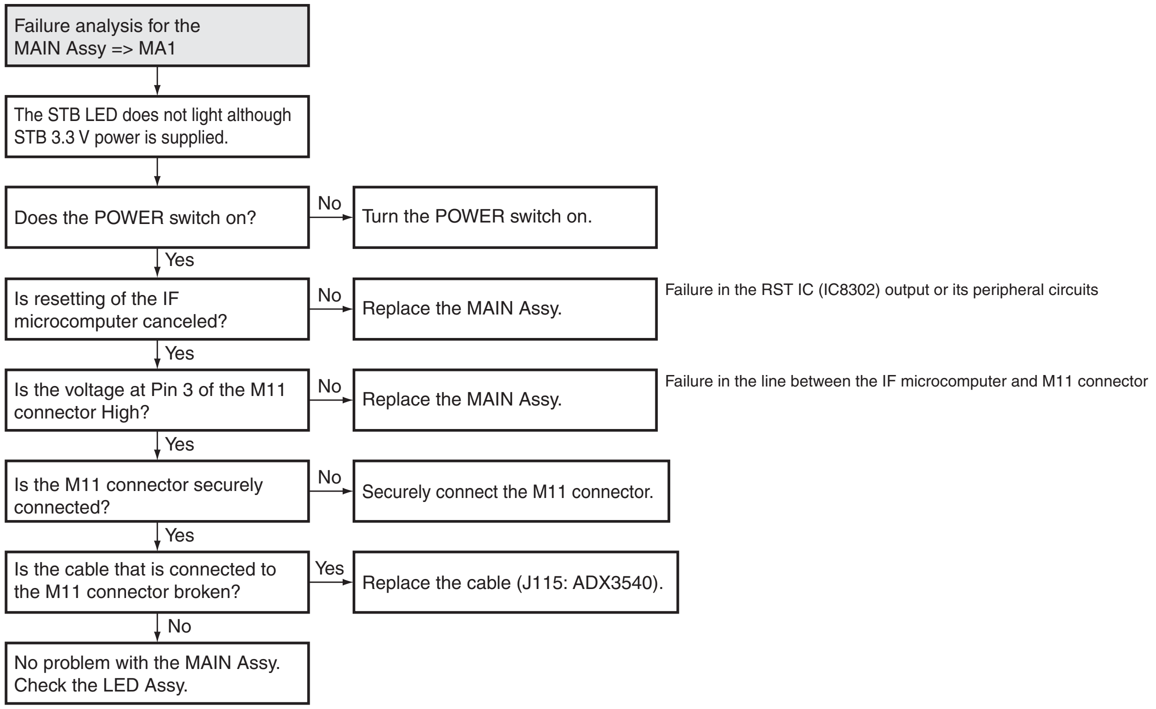
When disconnecting the FFC cable, take care not to damage the CN3001 connector on the DIGITAL Assy, which can easily be damaged.

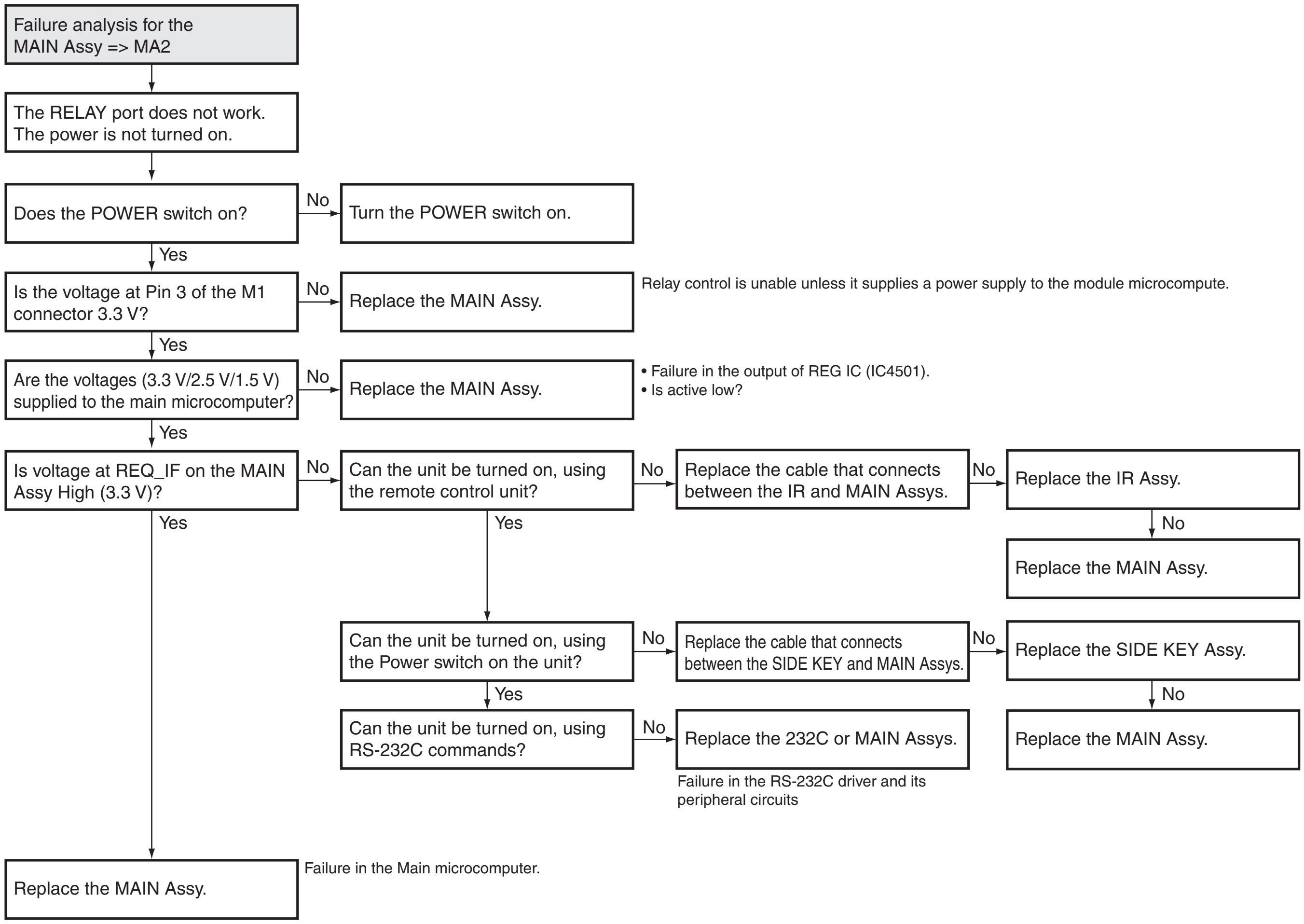
It is most likely that the sync signal is abnormal.

It is most likely that the video signal data are missing.

## 5.2.5 MAIN ASSY

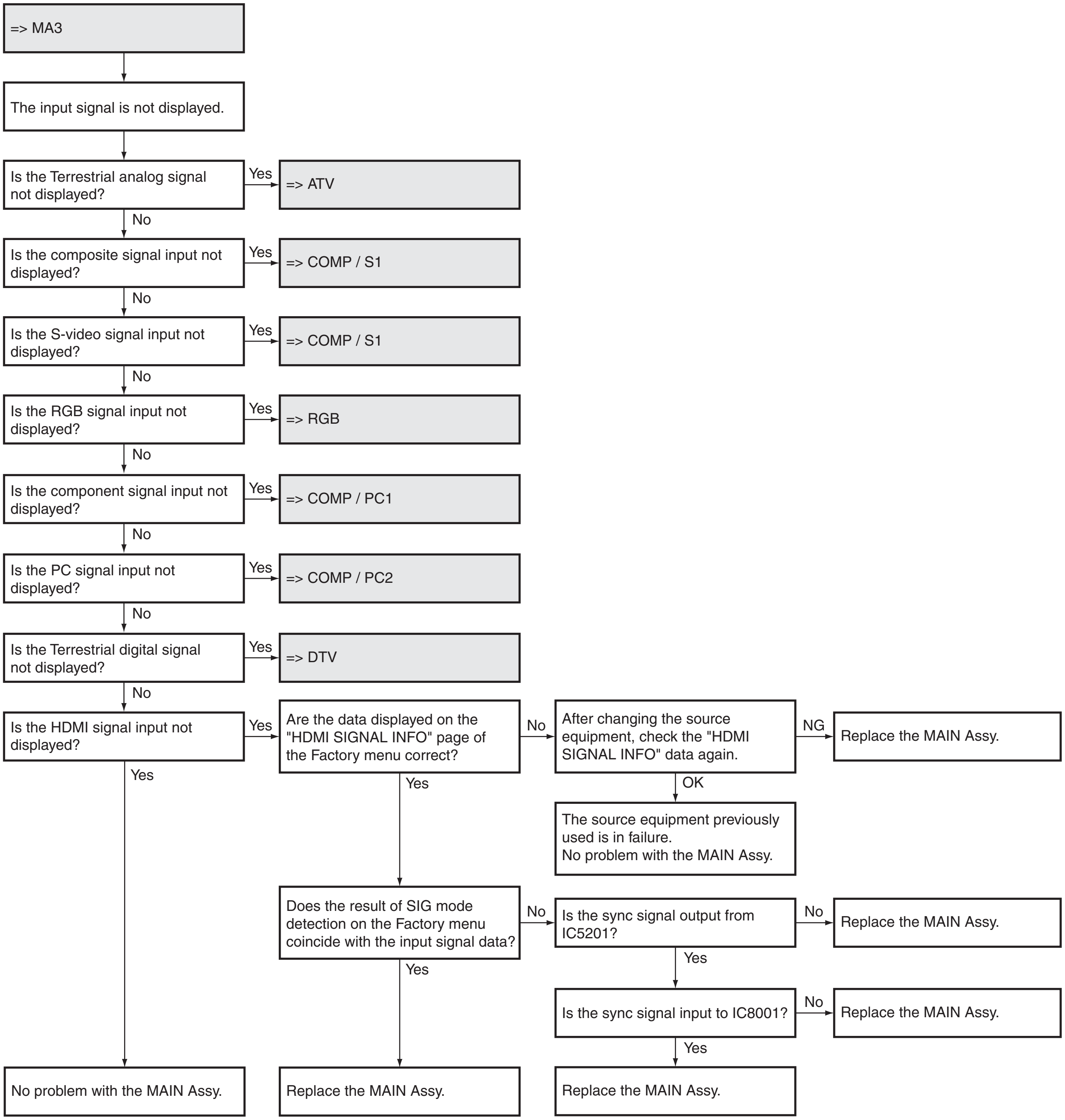
### Flowchart of Failure Analysis for The MAIN Assy


Failure analysis for the MAIN Assy => MA1
The STB LED does not light although STB 3.3 V power is supplied.
Does the POWER switch on?
No
Turn the POWER switch on.
Yes
Is resetting of the IF microcomputer canceled?
No
Replace the MAIN Assy.
Failure in the RST IC (IC8302) output or its peripheral circuits
Yes
Is the voltage at Pin 3 of the M11 connector High?
No
Replace the MAIN Assy.
Failure in the line between the IF microcomputer and M11 connector
Yes
Is the M11 connector securely connected?
No
Securely connect the M11 connector.
Yes
Is the cable that is connected to the M11 connector broken?
Yes
Replace the cable (J115: ADX3540).
No
No problem with the MAIN Assy. Check the LED Assy.

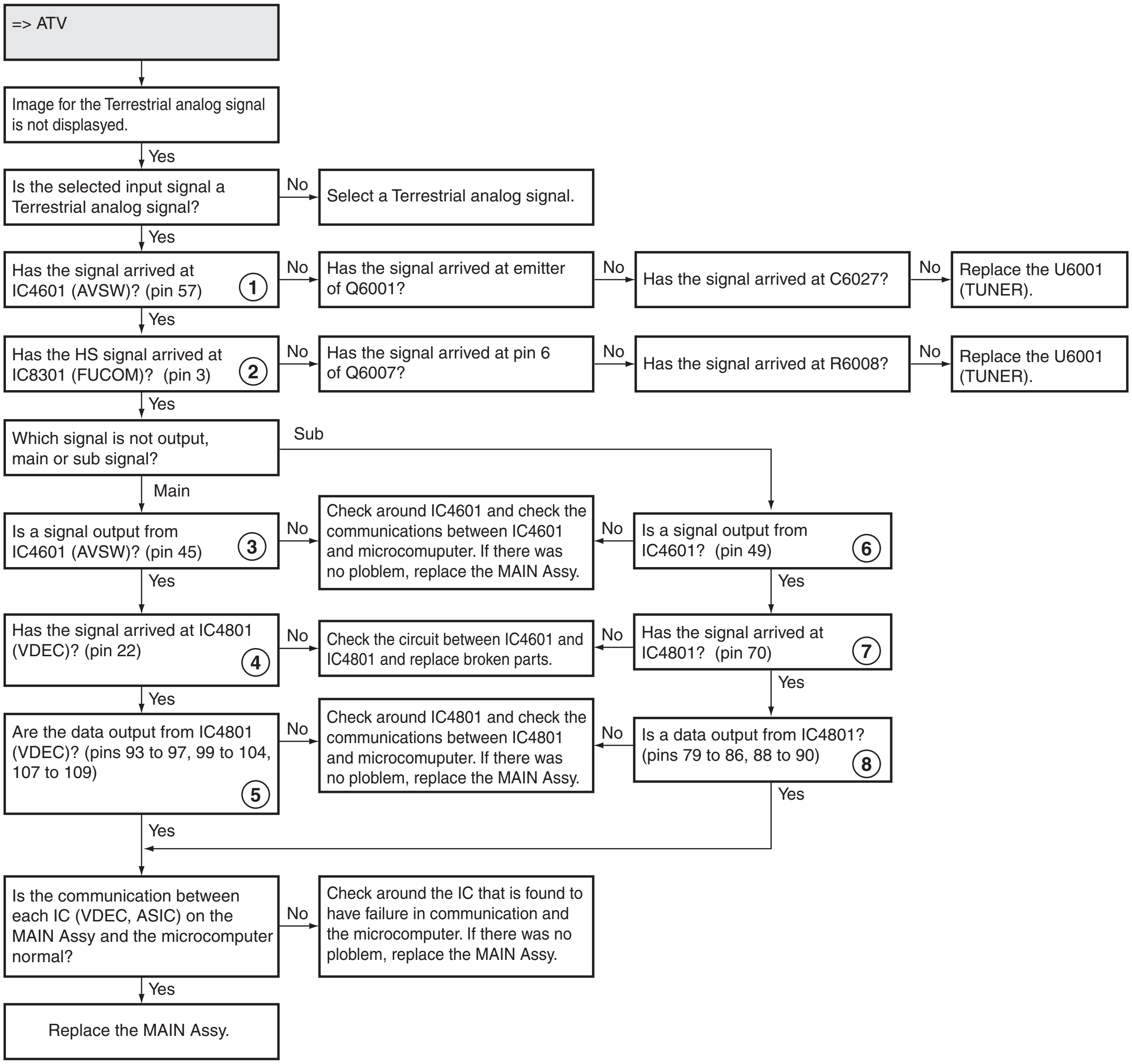

Failure analysis for the MAIN Assy => MA2
The RELAY port does not work. The power is not turned on.
Does the POWER switch on?
No
Turn the POWER switch on.
Yes
Is the voltage at Pin 3 of the M1 connector 3.3 V?
No
Replace the MAIN Assy.
Relay control is unable unless it supplies a power supply to the module microcompute.
Yes
Are the voltages (3.3 V/2.5 V/1.5 V) supplied to the main microcomputer?
No
Replace the MAIN Assy.
• Failure in the output of REG IC (IC4501).
• Is active low?
Yes
Is voltage at REQ_IF on the MAIN Assy High (3.3 V)?
No
Can the unit be turned on, using the remote control unit?
No
Replace the cable that connects between the IR and MAIN Assys.
No
Replace the IR Assy.
No
Replace the MAIN Assy.
Yes
Can the unit be turned on, using the Power switch on the unit?
No
Replace the cable that connects between the SIDE KEY and MAIN Assys.
No
Replace the SIDE KEY Assy.
No
Replace the MAIN Assy.
Yes
Can the unit be turned on, using RS-232C commands?
No
Replace the 232C or MAIN Assys.
Failure in the RS-232C driver and its peripheral circuits
Yes
Replace the MAIN Assy.
Failure in the Main microcomputer.

## 5.2.6 VIDEO SYSTEM

### Flowchart of Failure Analysis for The Video System

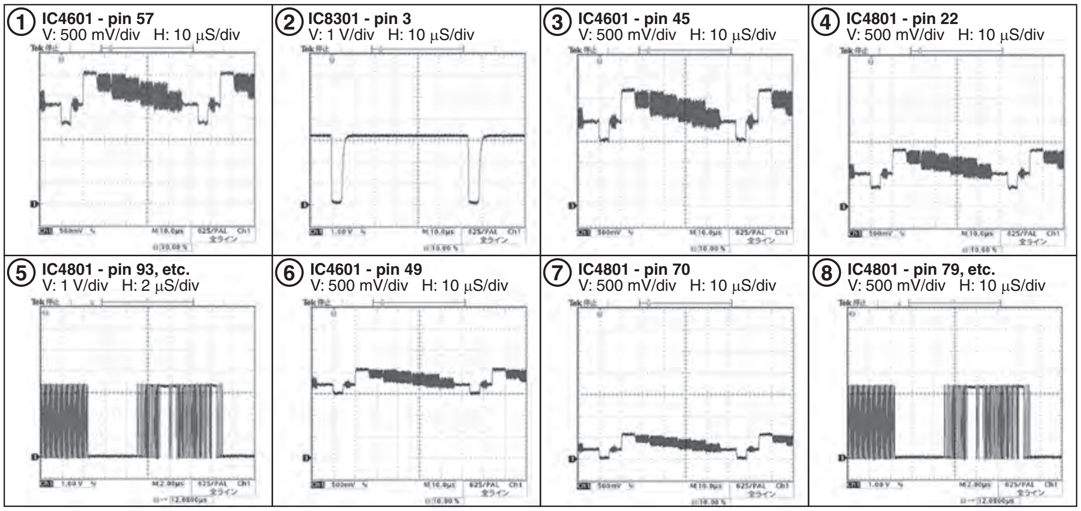

=> MA3
The input signal is not displayed.
Is the Terrestrial analog signal not displayed?
Yes
=> ATV
No
Is the composite signal input not displayed?
Yes
=> COMP / S1
No
Is the S-video signal input not displayed?
Yes
=> COMP / S1
No
Is the RGB signal input not displayed?
Yes
=> RGB
No
Is the component signal input not displayed?
Yes
=> COMP / PC1
No
Is the PC signal input not displayed?
Yes
=> COMP / PC2
No
Is the Terrestrial digital signal not displayed?
Yes
=> DTV
No
Is the HDMI signal input not displayed?
Yes
Are the data displayed on the "HDMI SIGNAL INFO" page of the Factory menu correct?
No
After changing the source equipment, check the "HDMI SIGNAL INFO" data again.
NG
Replace the MAIN Assy.
OK
The source equipment previously used is in failure.
No problem with the MAIN Assy.
Yes
Does the result of SIG mode detection on the Factory menu coincide with the input signal data?
No
Is the sync signal output from IC5201?
No
Replace the MAIN Assy.
Yes
Is the sync signal input to IC8001?
No
Replace the MAIN Assy.
Yes
Replace the MAIN Assy.
Yes
Replace the MAIN Assy.
Yes
No problem with the MAIN Assy.

## Flowchart of Failure Analysis for The Video System


=> ATV
Image for the Terrestrial analog signal is not displasyed.
Yes
Is the selected input signal a Terrestrial analog signal?
No
Select a Terrestrial analog signal.
Yes
Has the signal arrived at IC4601 (AVSW)? (pin 57) ①
No
Has the signal arrived at emitter of Q6001?
No
Has the signal arrived at C6027?
No
Replace the U6001 (TUNER).
Yes
Has the HS signal arrived at IC8301 (FUCOM)? (pin 3) ②
No
Has the signal arrived at pin 6 of Q6007?
No
Has the signal arrived at R6008?
No
Replace the U6001 (TUNER).
Yes
Which signal is not output, main or sub signal?
Sub
Main
Is a signal output from IC4601 (AVSW)? (pin 45) ③
No
Check around IC4601 and check the communications between IC4601 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
No
Is a signal output from IC4601? (pin 49) ⑥
Yes
Yes
Has the signal arrived at IC4801 (VDEC)? (pin 22) ④
No
Check the circuit between IC4601 and IC4801 and replace broken parts.
No
Has the signal arrived at IC4801? (pin 70) ⑦
Yes
Yes
Are the data output from IC4801 (VDEC)? (pins 93 to 97, 99 to 104, 107 to 109) ⑤
No
Check around IC4801 and check the communications between IC4801 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
No
Is a data output from IC4801? (pins 79 to 86, 88 to 90) ⑧
Yes
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

- **Waveforms**

Input signal: PAL Color-bar (Analog tuner)



① **IC4601 - pin 57**
V: 500 mV/div H: 10 µS/div

② **IC8301 - pin 3**
V: 1 V/div H: 10 µS/div

③ **IC4601 - pin 45**
V: 500 mV/div H: 10 µS/div

④ **IC4801 - pin 22**
V: 500 mV/div H: 10 µS/div

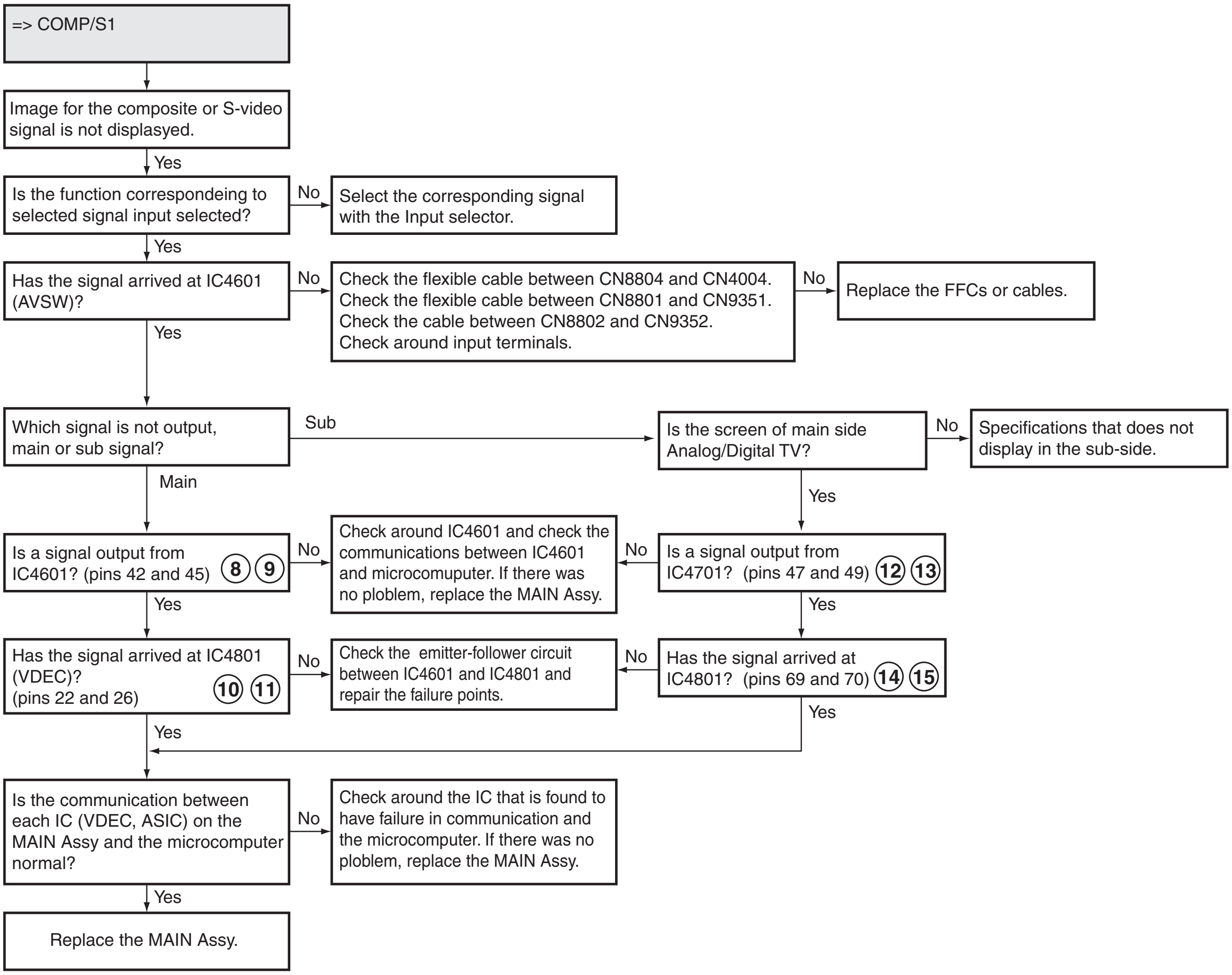
⑤ **IC4801 - pin 93, etc.**
V: 1 V/div H: 2 µS/div

⑥ **IC4601 - pin 49**
V: 500 mV/div H: 10 µS/div

⑦ **IC4801 - pin 70**
V: 500 mV/div H: 10 µS/div

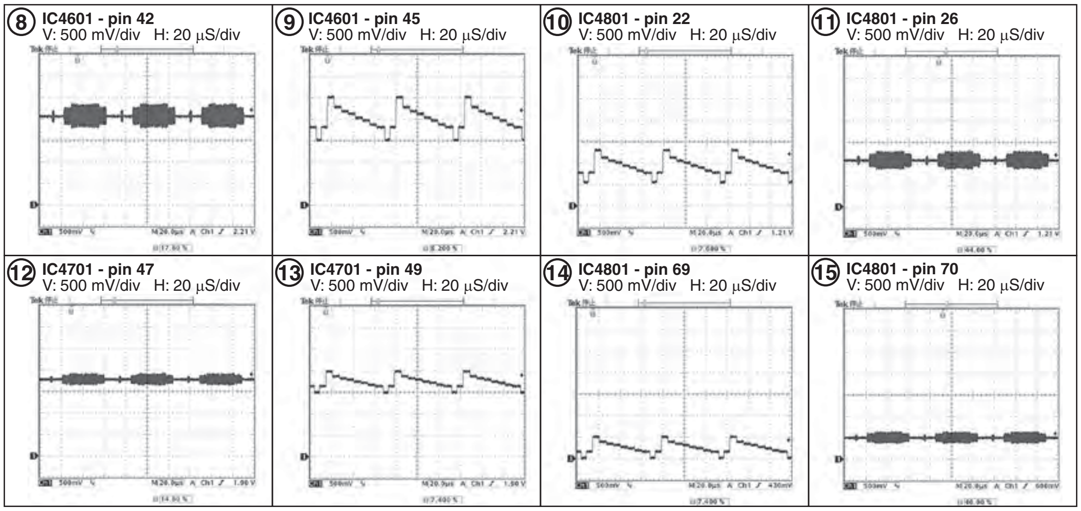
⑧ **IC4801 - pin 79, etc.**
V: 500 mV/div H: 10 µS/div

## Flowchart of Failure Analysis for The Video System


=> COMP/S1
Image for the composite or S-video signal is not displasyed.
Yes
Is the function correspondeing to selected signal input selected?
No
Select the corresponding signal with the Input selector.
Yes
Has the signal arrived at IC4601 (AVSW)?
No
Check the flexible cable between CN8804 and CN4004. Check the flexible cable between CN8801 and CN9351. Check the cable between CN8802 and CN9352. Check around input terminals.
No
Replace the FFCs or cables.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Yes
Main
Is a signal output from IC4601? (pins 42 and 45) ⑧ ⑨
No
Check around IC4601 and check the communications between IC4601 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
No
Is a signal output from IC4701? (pins 47 and 49) ⑫ ⑬
Yes
Yes
Has the signal arrived at IC4801 (VDEC)? (pins 22 and 26) ⑩ ⑪
No
Check the emitter-follower circuit between IC4601 and IC4801 and repair the failure points.
No
Has the signal arrived at IC4801? (pins 69 and 70) ⑭ ⑮
Yes
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

- **Waveforms**

Input signal: PAL Color-bar (S terminal)



⑧ **IC4601 - pin 42** V: 500 mV/div H: 20 μS/div

⑨ **IC4601 - pin 45** V: 500 mV/div H: 20 μS/div

⑩ **IC4801 - pin 22** V: 500 mV/div H: 20 μS/div

⑪ **IC4801 - pin 26** V: 500 mV/div H: 20 μS/div

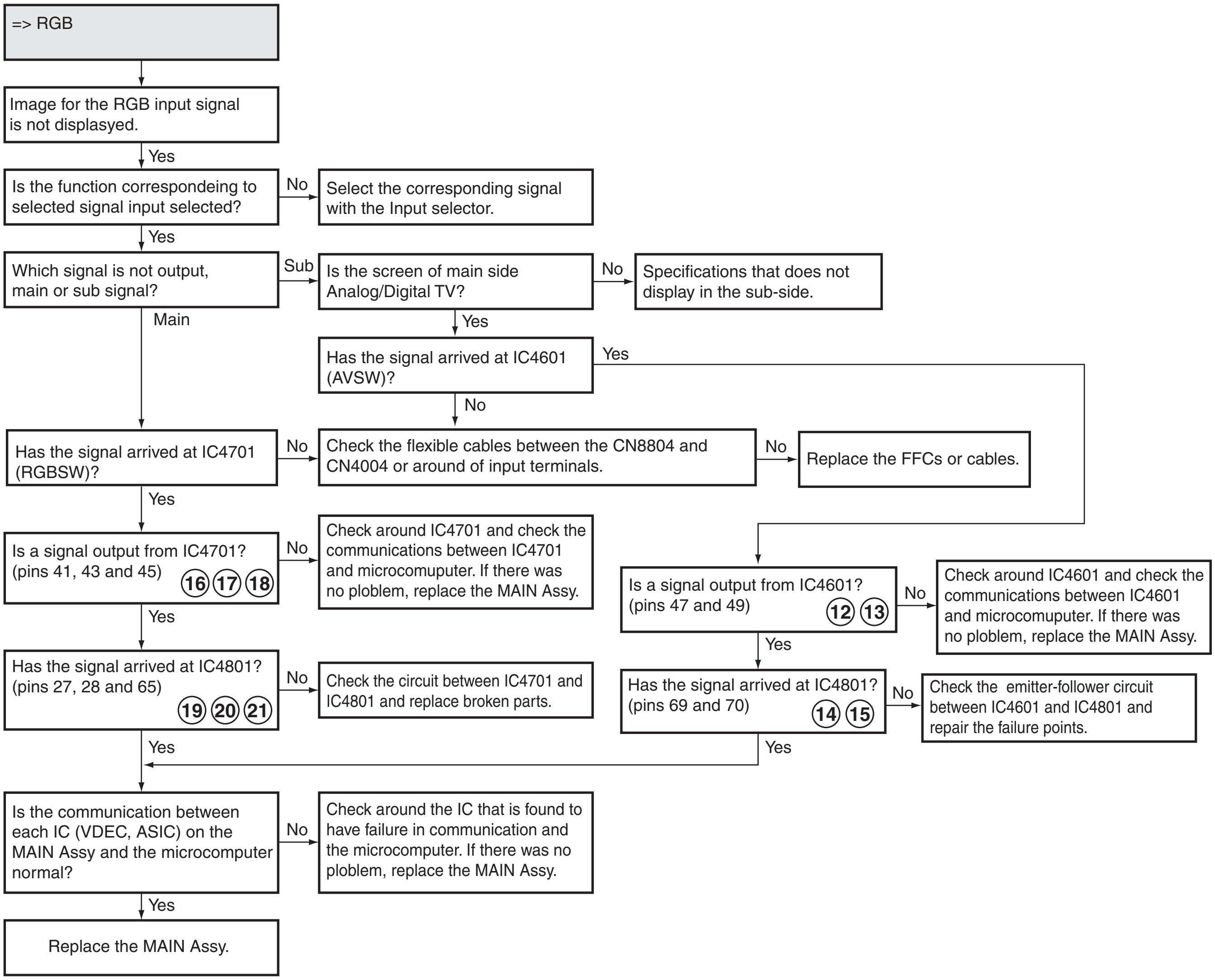
⑫ **IC4701 - pin 47** V: 500 mV/div H: 20 μS/div

⑬ **IC4701 - pin 49** V: 500 mV/div H: 20 μS/div

⑭ **IC4801 - pin 69** V: 500 mV/div H: 20 μS/div

⑮ **IC4801 - pin 70** V: 500 mV/div H: 20 μS/div

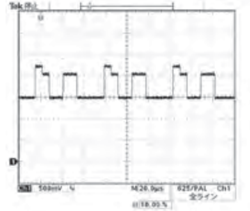
## Flowchart of Failure Analysis for The Video System


=> RGB
Image for the RGB input signal is not displasyed.
Yes
Is the function correspondeing to selected signal input selected?
No
Select the corresponding signal with the Input selector.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Yes
Has the signal arrived at IC4601 (AVSW)?
Yes
No
Main
Has the signal arrived at IC4701 (RGBSW)?
No
Check the flexible cables between the CN8804 and CN4004 or around of input terminals.
No
Replace the FFCs or cables.
Yes
Is a signal output from IC4701? (pins 41, 43 and 45) ⑯ ⑰ ⑱
No
Check around IC4701 and check the communications between IC4701 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
Is a signal output from IC4601? (pins 47 and 49) ⑫ ⑬
No
Check around IC4601 and check the communications between IC4601 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
Yes
Has the signal arrived at IC4801? (pins 27, 28 and 65) ⑲ ⑳ ㉑
No
Check the circuit between IC4701 and IC4801 and replace broken parts.
Yes
Has the signal arrived at IC4801? (pins 69 and 70) ⑭ ⑮
No
Check the emitter-follower circuit between IC4601 and IC4801 and repair the failure points.
Yes
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

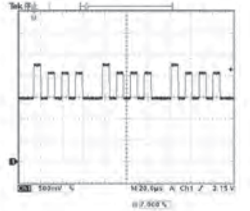
## • Waveforms

Input signal: PAL Color-bar (SCART RGB terminal)

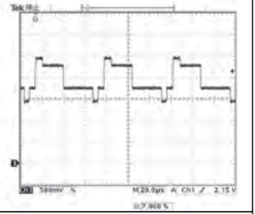
⑯ **IC4701 - pin 41**
V: 500 mV/div H: 20 µS/div



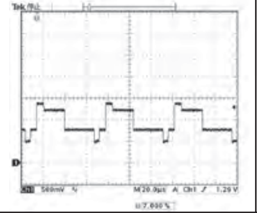
⑰ **IC4701 - pin 43**
V: 500 mV/div H: 20 µS/div



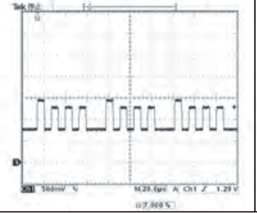
⑱ **IC4701 - pin 45**
V: 500 mV/div H: 20 µS/div



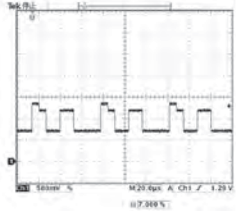
⑲ **IC4801 - pin 27**
V: 500 mV/div H: 20 µS/div



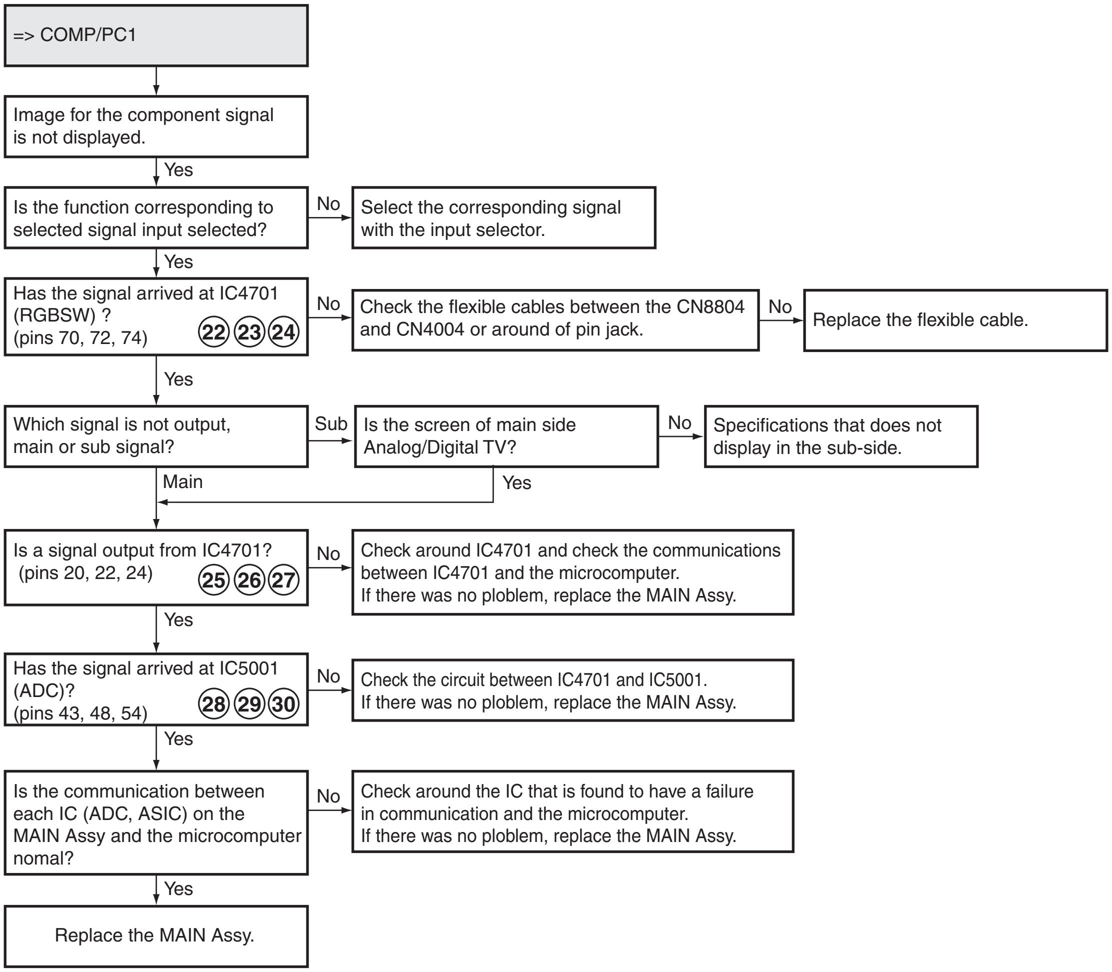
⑳ **IC4801 - pin 28**
V: 500 mV/div H: 20 µS/div



㉑ **IC4801 - pin 65**
V: 500 mV/div H: 20 µS/div



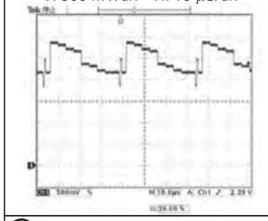
# Flowchart of Failure Analysis for The Video System


=> COMP/PC1
Image for the component signal is not displayed.
Yes
Is the function corresponding to selected signal input selected?
No
Select the corresponding signal with the input selector.
Yes
Has the signal arrived at IC4701 (RGBSW) ? (pins 70, 72, 74) ㉒㉓㉔
No
Check the flexible cables between the CN8804 and CN4004 or around of pin jack.
No
Replace the flexible cable.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Main
Yes
Is a signal output from IC4701? (pins 20, 22, 24) ㉕㉖㉗
No
Check around IC4701 and check the communications between IC4701 and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Has the signal arrived at IC5001 (ADC)? (pins 43, 48, 54) ㉘㉙㉚
No
Check the circuit between IC4701 and IC5001. If there was no ploblem, replace the MAIN Assy.
Yes
Is the communication between each IC (ADC, ASIC) on the MAIN Assy and the microcomputer nomal?
No
Check around the IC that is found to have a failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

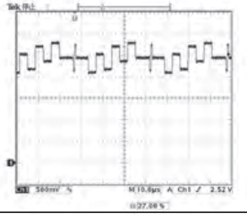
## • Waveforms

Input signal: Color-bar (Component 1080i)

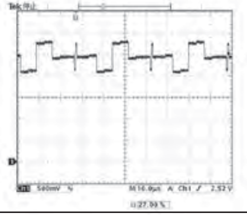
㉒ **IC4701 - pin 70**
V: 500 mV/div H: 10 µS/div



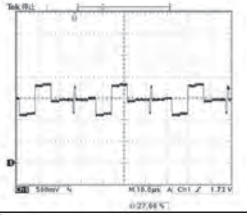
㉓ **IC4701 - pin 72**
V: 500 mV/div H: 10 µS/div



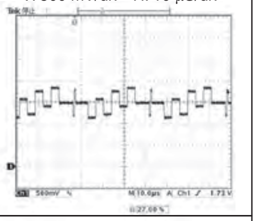
㉔ **IC4701 - pin 74**
V: 500 mV/div H: 10 µS/div



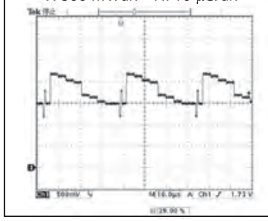
㉕ **IC4701 - pin 20**
V: 500 mV/div H: 10 µS/div



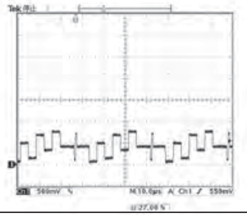
㉖ **IC4701 - pin 22**
V: 500 mV/div H: 10 µS/div



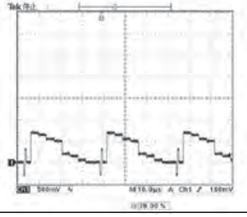
㉗ **IC4701 - pin 24**
V: 500 mV/div H: 10 µS/div



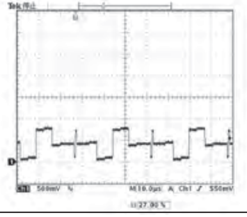
㉘ **IC5001 - pin 43**
V: 500 mV/div H: 10 µS/div



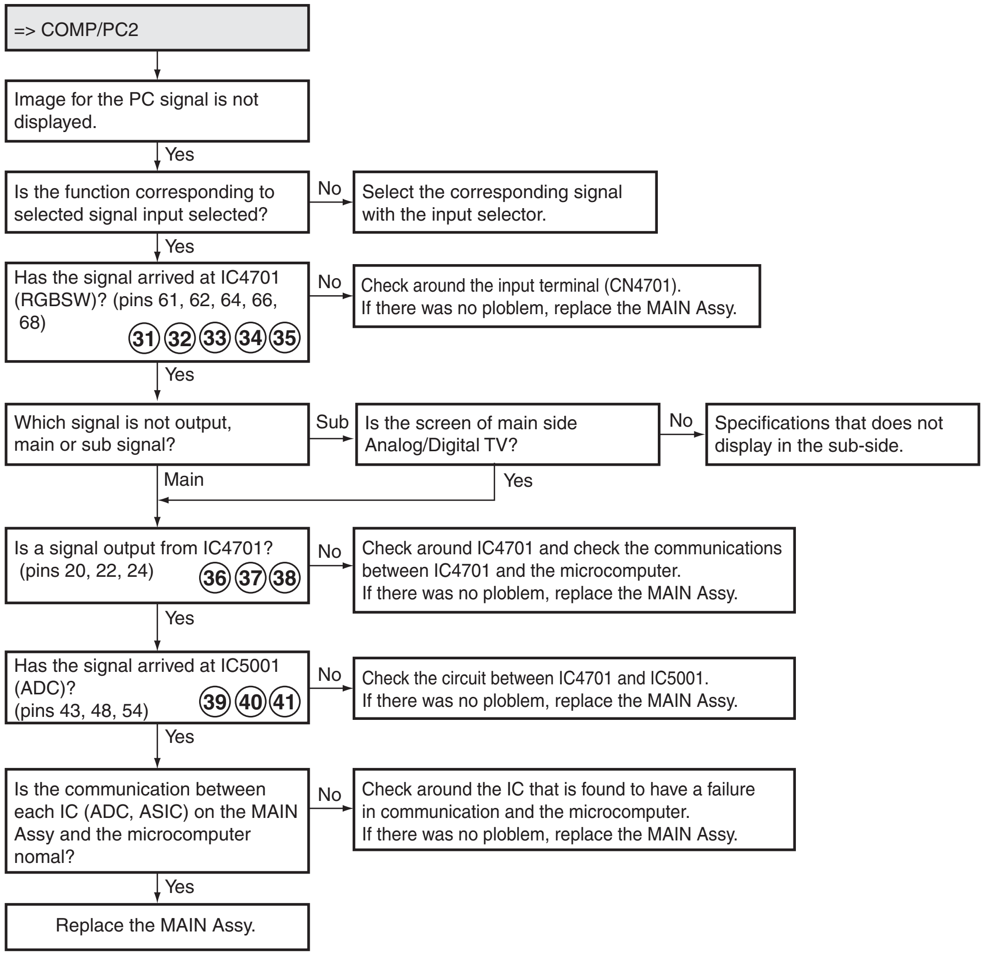
㉙ **IC5001 - pin 48**
V: 500 mV/div H: 10 µS/div



㉚ **IC5001 - pin 54**
V: 500 mV/div H: 10 µS/div



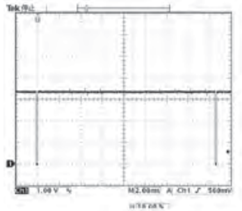
## Flowchart of Failure Analysis for The Video System


=> COMP/PC2
Image for the PC signal is not displayed.
Yes
Is the function corresponding to selected signal input selected?
No
Select the corresponding signal with the input selector.
Yes
Has the signal arrived at IC4701 (RGBSW)? (pins 61, 62, 64, 66, 68) ㉛㉜㉝㉞㉟
No
Check around the input terminal (CN4701). If there was no ploblem, replace the MAIN Assy.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Main
Yes
Is a signal output from IC4701? (pins 20, 22, 24) ㊱㊲㊳
No
Check around IC4701 and check the communications between IC4701 and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Has the signal arrived at IC5001 (ADC)? (pins 43, 48, 54) ㊴㊵㊶
No
Check the circuit between IC4701 and IC5001. If there was no ploblem, replace the MAIN Assy.
Yes
Is the communication between each IC (ADC, ASIC) on the MAIN Assy and the microcomputer nomal?
No
Check around the IC that is found to have a failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

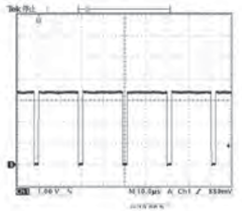
## • Waveforms

Input signal: Color-bar (PC XGA/60 Hz)

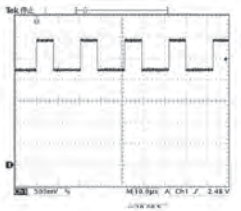
㉛ **IC4701 - pin 61**
V: 1 V/div H: 2 mS/div



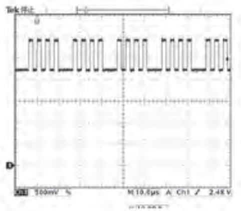
㉜ **IC4701 - pin 62**
V: 1 V/div H: 10 µS/div



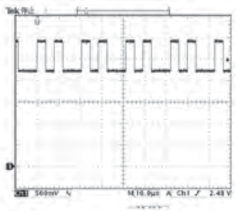
㉝ **IC4701 - pin 64**
V: 500 mV/div H: 10 µS/div



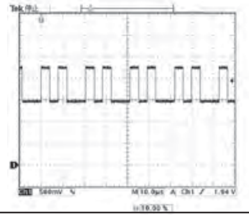
㉞ **IC4701 - pin 66**
V: 500 mV/div H: 10 µS/div



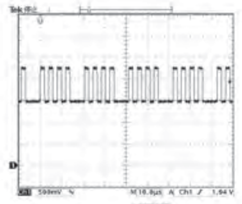
㉟ **IC4701 - pin 68**
V: 500 mV/div H: 10 µS/div



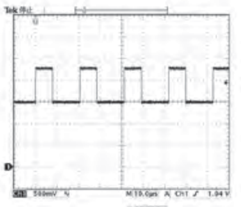
㊱ **IC4701 - pin 20**
V: 500 mV/div H: 10 µS/div



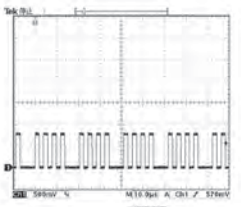
㊲ **IC4701 - pin 22**
V: 500 mV/div H: 10 µS/div



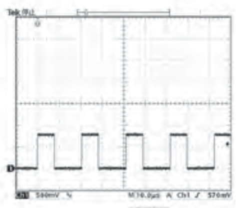
㊳ **IC4701 - pin 24**
V: 500 mV/div H: 10 µS/div



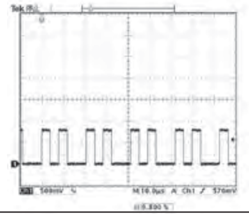
㊴ **IC5001 - pin 43**
V: 500 mV/div H: 10 µS/div



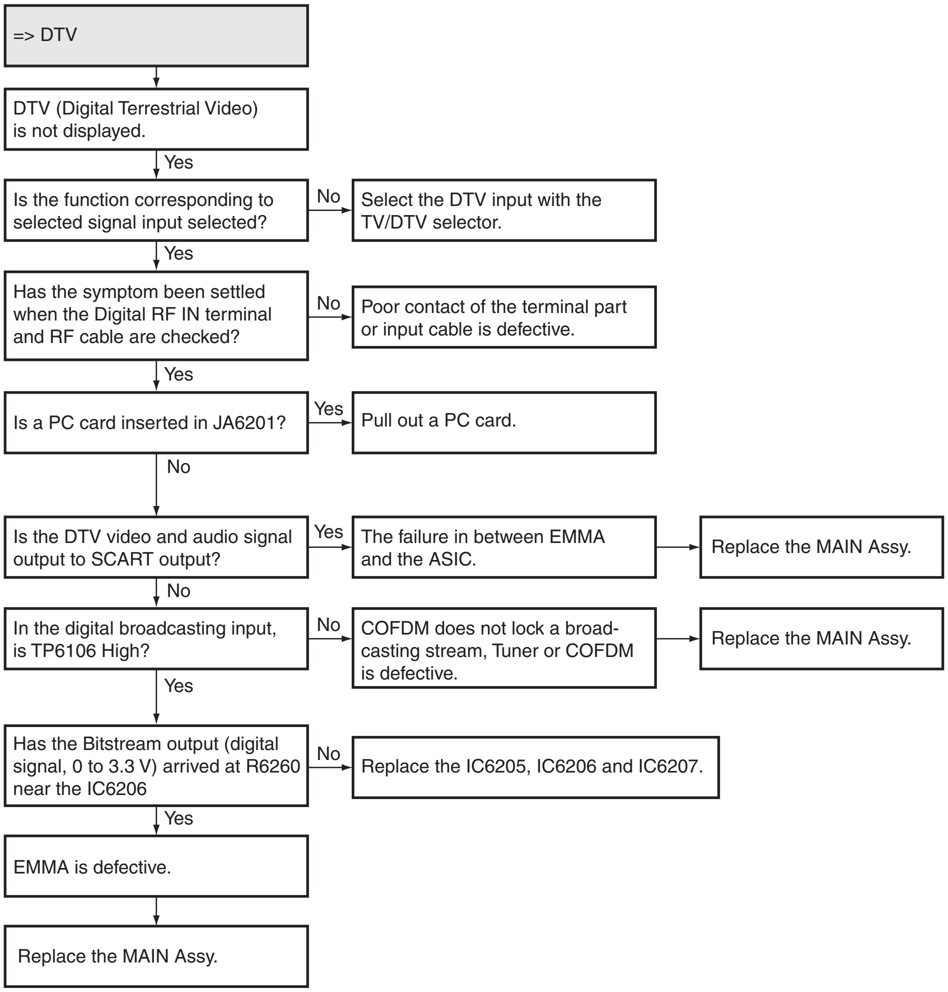
㊵ **IC5001 - pin 48**
V: 500 mV/div H: 10 µS/div



㊶ **IC5001 - pin 54**
V: 500 mV/div H: 10 µS/div

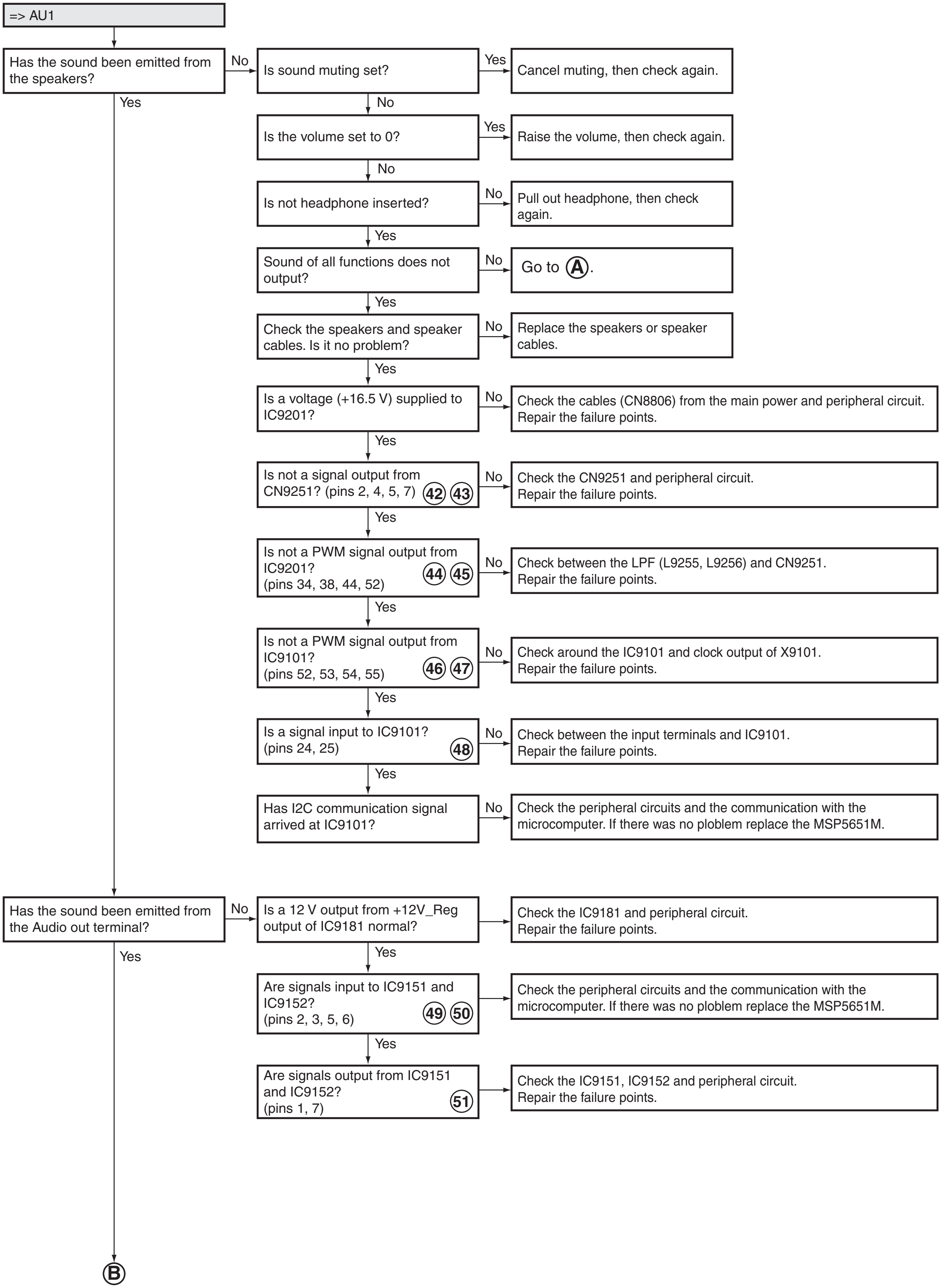


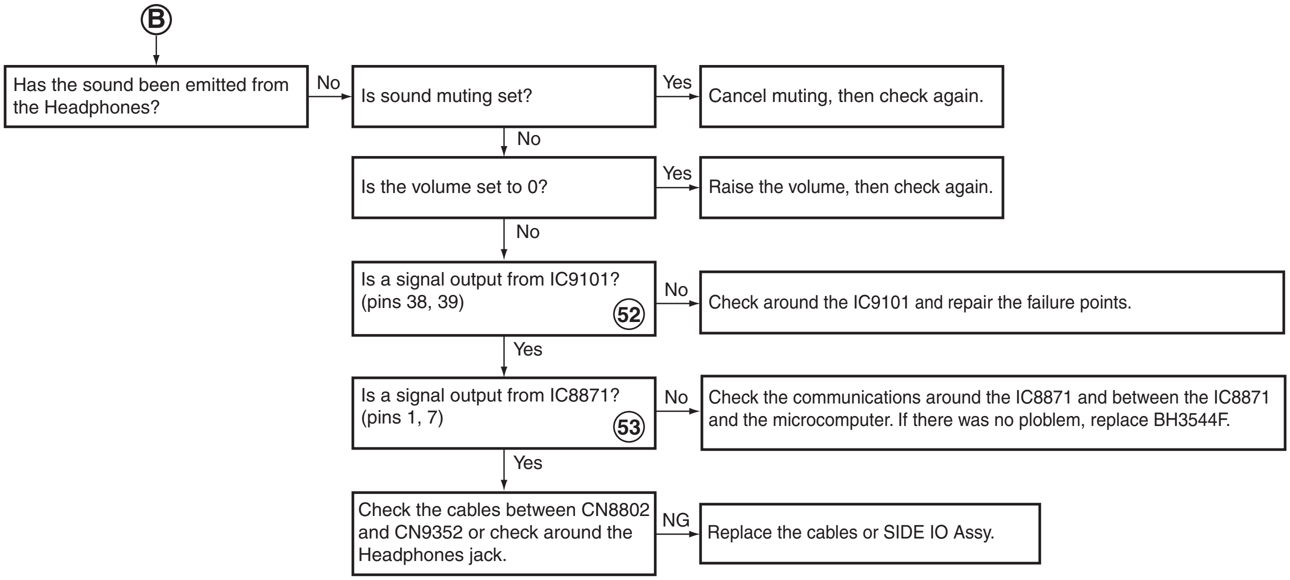
## Flowchart of Failure Analysis for The Video System


=> DTV
DTV (Digital Terrestrial Video) is not displayed.
Yes
Is the function corresponding to selected signal input selected?
No
Select the DTV input with the TV/DTV selector.
Yes
Has the symptom been settled when the Digital RF IN terminal and RF cable are checked?
No
Poor contact of the terminal part or input cable is defective.
Yes
Is a PC card inserted in JA6201?
Yes
Pull out a PC card.
No
Is the DTV video and audio signal output to SCART output?
Yes
The failure in between EMMA and the ASIC.
Replace the MAIN Assy.
No
In the digital broadcasting input, is TP6106 High?
No
COFDM does not lock a broadcasting stream, Tuner or COFDM is defective.
Replace the MAIN Assy.
Yes
Has the Bitstream output (digital signal, 0 to 3.3 V) arrived at R6260 near the IC6206
No
Replace the IC6205, IC6206 and IC6207.
Yes
EMMA is defective.
Replace the MAIN Assy.

## 5.2.7 AUDIO SYSTEM

### Flowchart of Failure Analysis for The Audio System

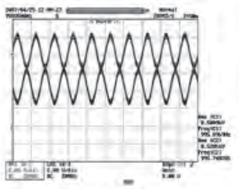

=> AU1
Has the sound been emitted from the speakers?
No
Yes
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is not headphone inserted?
No
Pull out headphone, then check again.
Yes
Sound of all functions does not output?
No
Go to Ⓐ.
Yes
Check the speakers and speaker cables. Is it no problem?
No
Replace the speakers or speaker cables.
Yes
Is a voltage (+16.5 V) supplied to IC9201?
No
Check the cables (CN8806) from the main power and peripheral circuit. Repair the failure points.
Yes
Is not a signal output from CN9251? (pins 2, 4, 5, 7) ㊷ ㊸
No
Check the CN9251 and peripheral circuit. Repair the failure points.
Yes
Is not a PWM signal output from IC9201? (pins 34, 38, 44, 52) ㊹ ㊺
No
Check between the LPF (L9255, L9256) and CN9251. Repair the failure points.
Yes
Is not a PWM signal output from IC9101? (pins 52, 53, 54, 55) ㊻ ㊼
No
Check around the IC9101 and clock output of X9101. Repair the failure points.
Yes
Is a signal input to IC9101? (pins 24, 25) ㊽
No
Check between the input terminals and IC9101. Repair the failure points.
Yes
Has I2C communication signal arrived at IC9101?
No
Check the peripheral circuits and the communication with the microcomputer. If there was no ploblem replace the MSP5651M.
Has the sound been emitted from the Audio out terminal?
No
Yes
Is a 12 V output from +12V_Reg output of IC9181 normal?
Check the IC9181 and peripheral circuit. Repair the failure points.
Yes
Are signals input to IC9151 and IC9152? (pins 2, 3, 5, 6) ㊾ ㊿
Check the peripheral circuits and the communication with the microcomputer. If there was no ploblem replace the MSP5651M.
Yes
Are signals output from IC9151 and IC9152? (pins 1, 7) (51)
Check the IC9151, IC9152 and peripheral circuit. Repair the failure points.
Ⓑ


B
Has the sound been emitted from the Headphones?
No
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is a signal output from IC9101? (pins 38, 39)
52
No
Check around the IC9101 and repair the failure points.
Yes
Is a signal output from IC8871? (pins 1, 7)
53
No
Check the communications around the IC8871 and between the IC8871 and the microcomputer. If there was no ploblem, replace BH3544F.
Yes
Check the cables between CN8802 and CN9352 or check around the Headphones jack.
NG
Replace the cables or SIDE IO Assy.

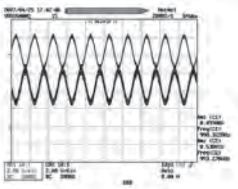
## • Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

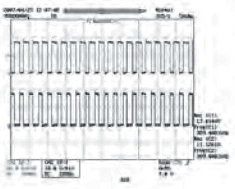
(42) **CN9251 - pins 2, 4**
V: 2 V/div H: 1 mS/div



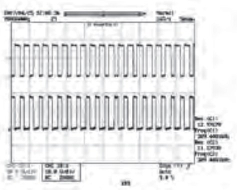
(43) **CN9251 - pins 5, 7**
V: 2 V/div H: 1 mS/div



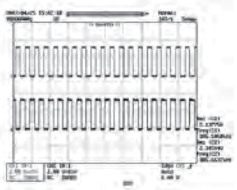
(44) **IC9201 - pins 34, 38**
V: 10 V/div H: 5 µS/div



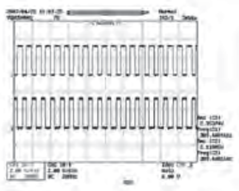
(45) **IC9201 - pins 44, 52**
V: 10 V/div H: 5 µS/div



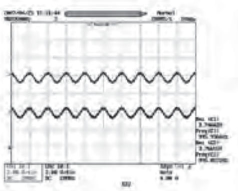
(46) **IC9101 - pins 52, 53**
V: 2 V/div H: 5 µS/div



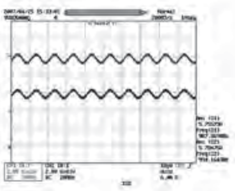
(47) **IC9101 - pins 54, 55**
V: 2 V/div H: 5 µS/div



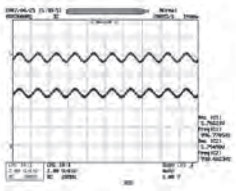
(48) **IC9101 - pins 24, 25**
V: 2 V/div H: 1 mS/div



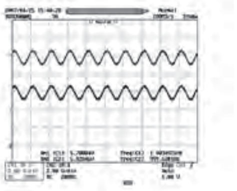
(49) **IC9151 - pins 2, 3**
V: 2 V/div H: 1 mS/div



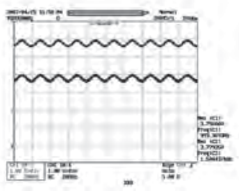
(50) **IC9151 - pins 5, 6**
V: 2 V/div H: 1 mS/div



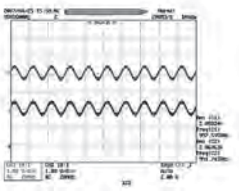
(51) **IC9151 - pin 1, etc.**
V: 2 V/div H: 1 mS/div

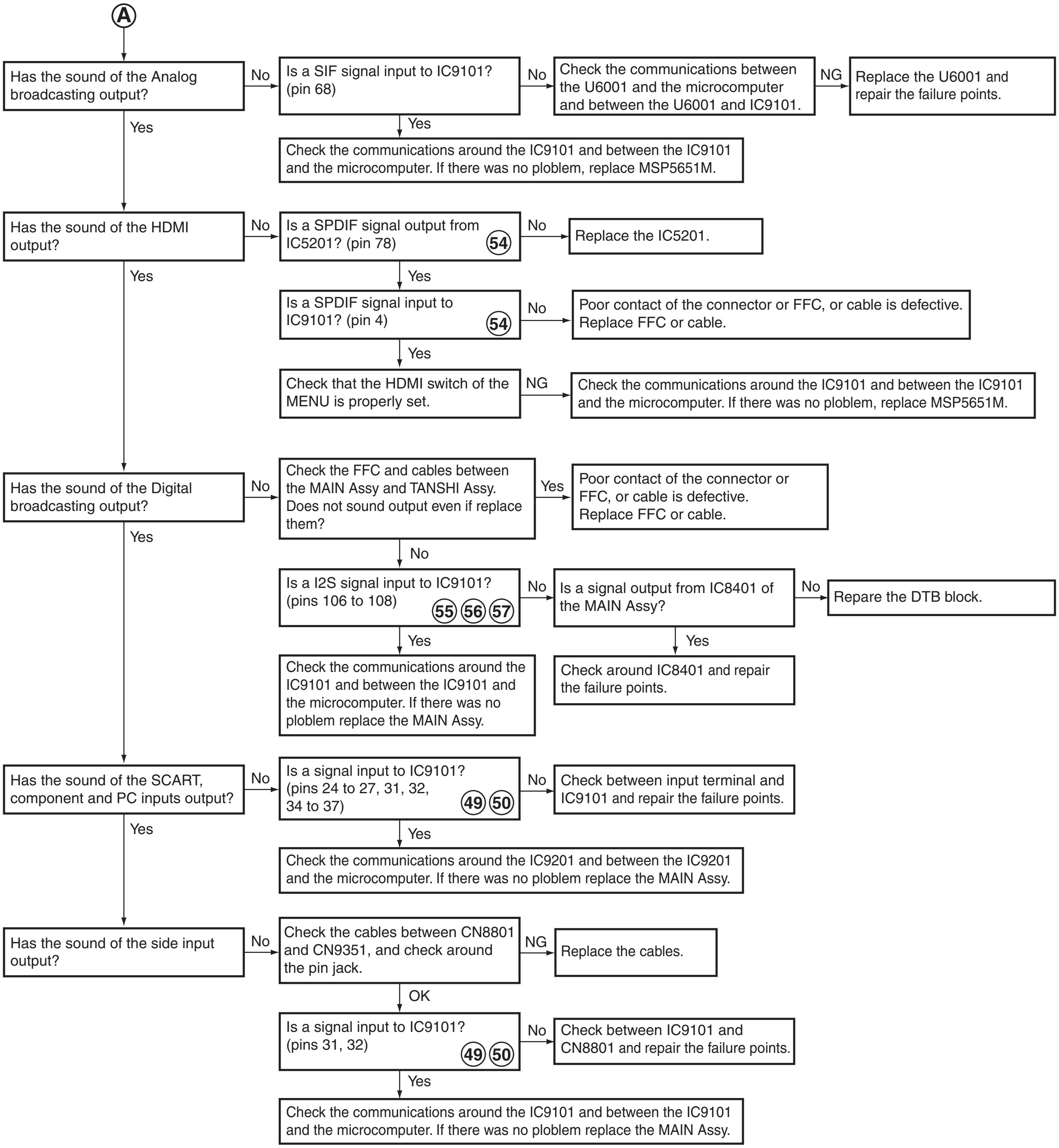


(52) **IC9101 - pins 38, 39**
V: 1 V/div H: 1 mS/div



(53) **IC8871 - pins 1, 7**
V: 1 V/div H: 1 mS/div





Has the sound of the Analog broadcasting output?

Is a SIF signal input to IC9101? (pin 68)

Check the communications between the U6001 and the microcomputer and between the U6001 and IC9101.

Replace the U6001 and repair the failure points.

Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem, replace MSP5651M.

Has the sound of the HDMI output?

Is a SPDIF signal output from IC5201? (pin 78) ㊹

Replace the IC5201.

Is a SPDIF signal input to IC9101? (pin 4) ㊹

Poor contact of the connector or FFC, or cable is defective. Replace FFC or cable.

Check that the HDMI switch of the MENU is properly set.

Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem, replace MSP5651M.

Has the sound of the Digital broadcasting output?

Check the FFC and cables between the MAIN Assy and TANSHI Assy. Does not sound output even if replace them?

Poor contact of the connector or FFC, or cable is defective. Replace FFC or cable.

Is a I2S signal input to IC9101? (pins 106 to 108) ㊺ ㊻ ㊼

Is a signal output from IC8401 of the MAIN Assy?

Repare the DTB block.

Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem replace the MAIN Assy.

Check around IC8401 and repair the failure points.

Has the sound of the SCART, component and PC inputs output?

Is a signal input to IC9101? (pins 24 to 27, 31, 32, 34 to 37) ㊾ ㊿

Check between input terminal and IC9101 and repair the failure points.

Check the communications around the IC9201 and between the IC9201 and the microcomputer. If there was no ploblem replace the MAIN Assy.

Has the sound of the side input output?

Check the cables between CN8801 and CN9351, and check around the pin jack.

Replace the cables.

Is a signal input to IC9101? (pins 31, 32) ㊾ ㊿

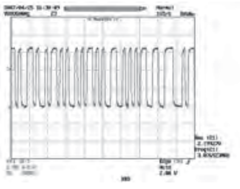
Check between IC9101 and CN8801 and repair the failure points.

Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem replace the MAIN Assy.

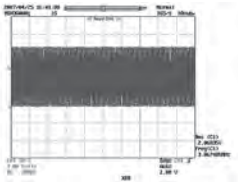
## ● Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

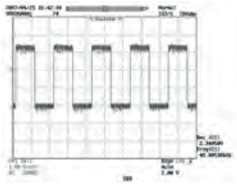
㊹ **IC5201 - pin 78**
V: 1 V/div H: 1 µS/div



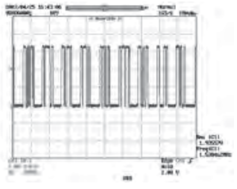
㊺ **IC9101 - pin 106**
V: 1 V/div H: 10 µS/div



㊻ **IC9101 - pin 107**
V: 1 V/div H: 10 µS/div



㊼ **IC9101 - pin 108**
V: 1 V/div H: 10 µS/div

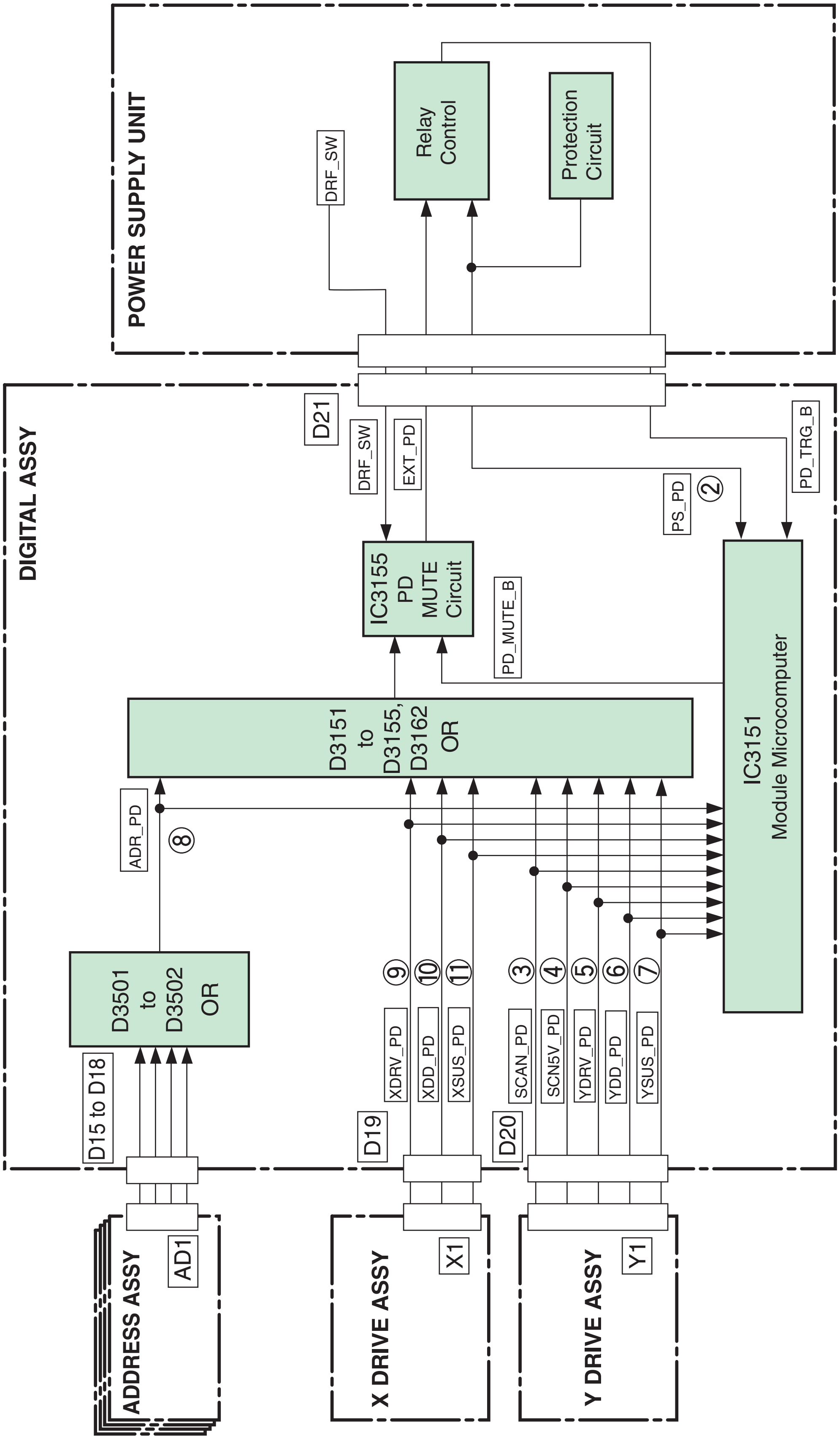


# 5.3 DIAGNOSIS OF PD (POWER-DOWN)

## 5.3.1 BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL

**■ Block Diagram of the Power-Down Signal**

**Note:**
The figures ② to ⑪ indicate the number of times the LED flashes when power-down occurs in the corresponding route.


POWER SUPPLY UNIT
DRF_SW
Relay Control
Protection Circuit
DIGITAL ASSY
D21
DRF_SW
EXT_PD
PS_PD
②
PD_TRG_B
IC3155 PD MUTE Circuit
PD_MUTE_B
IC3151 Module Microcomputer
D3151 to D3155, D3162 OR
ADR_PD
⑧
D3501 to D3502 OR
D15 to D18
⑨
⑩
⑪
XDRV_PD
XDD_PD
XSUS_PD
D19
③
④
⑤
⑥
⑦
SCAN_PD
SCN5V_PD
YDRV_PD
YDD_PD
YSUS_PD
D20
ADDRESS ASSY
AD1
X DRIVE ASSY
X1
Y DRIVE ASSY
Y1

## 5.3.2 PD (POWER-DOWN) DIAGNOSIS OF FAILURE ANALYSIS

### ■ Prediction of failure symptoms when a PD (power-down) is generated

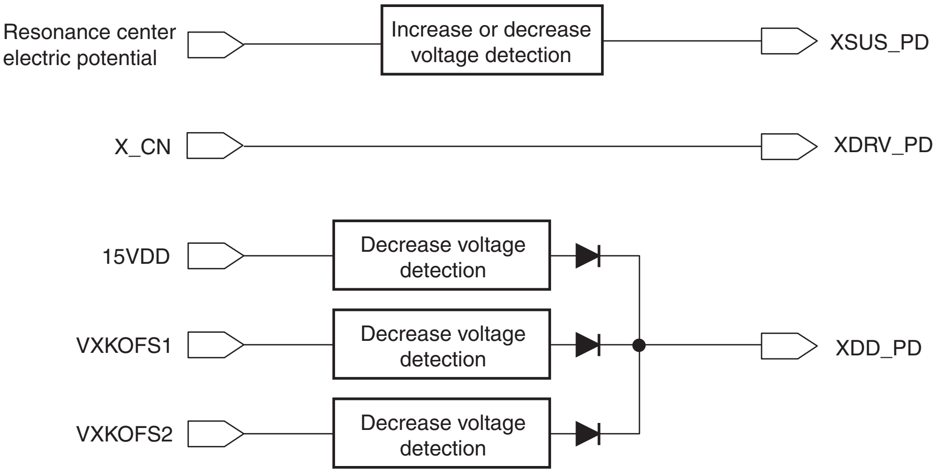
| Red LED Flashing Count | Operating PD | Defective Assy | PD Outline | Checkpoint | Possible Defective Part | Remarks |
|---|---|---|---|---|---|---|
| 2 | POWER | POWER SUPPLY Unit | Failure in the POWER SUPPLY Unit | | | |
| | | X DRIVE Assy | VSUS UVP | X SUS BLOCK | Q1219,Q1220,Q1221,<br>Q1222,Q1223,Q1224,Q1201 | VSUS-PSUS and SUSOUT-SUSGND are short-circuited. |
| | | Y DRIVE Assy | | Y SUS BLOCK | Q2217,Q2218,Q2219,<br>Q2221,Q2222,Q2223 | VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited. |
| 3 | SCAN | SCAN Assy | VH UVP | SCAN IC | SCAN IC | |
| | | X DRIVE Assy | | X SUS BLOCK | Q1219,Q1220,Q1221,<br>Q1222,Q1223,Q1224,Q1201 | VSUS-PSUS and SUSOUT-SUSGND are short-circuited. |
| | | Y DRIVE Assy | | Y SUS BLOCK | Q2217,Q2218,Q2219,<br>Q2221,Q2222,Q2223 | VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited. |
| | | | | VH DC/DC converter | IC2601,D2604 | |
| | | | Connectors disconnection detection | CN2001,CN2301 | | |
| | | DIGITAL Assy | | CN3506 | | |
| 4 | SCN-5V | SCAN Assy | IC5V UVP | SCAN IC | | |
| | | Y DRIVE Assy | | IC5V DC/DC | | |
| | | | Connectors disconnection detection | CN2501,CN2502 | Q2554,D2558 | |
| 5 | Y-DCDC | Y DRIVE Assy | Connectors disconnection detection | CN2001 | | |
| | | DIGITAL Assy | | CN3506 | | |
| 6 | Y-DCDC | Y DRIVE Assy | VNOFS UVP | Y MSK BLOCK | Q2320,Q2321,Q2322,Q2323,<br>Q2324,Q2325,Q2330,Q2332,<br>Q2334 | LMSK is short-circuited. |
| | | | | VNOFS DC/DC | D2606,Q2710,Q2711 | |
| | | | Vprst UVP | YPRST Regulator | D2602,Q2604,R2610 | |
| | | | 15VDD UVP | 15VDC/DC | Q2572 | |
| | | | VKOFS1_2 UVP | Y MSK BLOCK | Q2320,Q2321,Q2322,Q2323,<br>Q2324,Q2325,Q2330,Q2332,<br>Q2334 | LMSK is short-circuited. |
| | | | | VKOFS1_2 Regulator | Q2705,Q2702 | |
| | | | VKOFS3 UVP | Y MSK BLOCK | Q2320,Q2321,Q2322,Q2323,<br>Q2324,Q2325,Q2330,Q2332,<br>Q2334 | LMSK is short-circuited. |
| | | | | VKOFS3 Regulator | Q2706,Q2703 | |
| | | | VKOFS4 UVP | Y MSK BLOCK | Q2320,Q2321,Q2322,Q2323,<br>Q2324,Q2325,Q2330,Q2332,<br>Q2334 | LMSK is short-circuited. |
| | | | | VKOFS4 Regulator | Q2707,Q2704 | |
| 7 | Y-SUS | Y DRIVE Assy | Center electric potential detection PD | Y RESONANCE BLOCK | Q2106,Q2107,Q2108,Q2110,Q2112,<br>D2104,D2105,D2108,D2109 | |
| 8 | ADRS | ADDRESS Assy | Vadr LVP | ADDRESS RESONACE BLOCK | IC1651 to IC1656, IC1851 to IC1855 | Vadr is short-circuited (TCP,etc.).<br>Each TCP unit. |
| | | | | | Q1731,Q1741,Q1751,Q1761,Q1771,Q1781,Q1931,Q1941,Q1951,<br>Q1961,Q1971,(D1731,D1741,D1751,D1761,D1771,D1781,D1931,<br>D1941,D1951,D1961,D1971,R1714 to R1719,R1914 to R1918) | Between ADR_B and Vadr is short-circuited.<br>Each resonance block unit. |
| | | | | | C1711,C1911,(R1714 to R1719,R1914 to R1918,R1735,R1745,R1755,<br>R1765,R1775,R1785,R1935,R1945,R1955,R1965,R1975,D1731,D1741,<br>D1751,D1761,D1771,D1781,D1931,D1941,D1951,D1961,D1971) | ADR_B capacitor is short-circuited. |
| | | | Connectors disconnection detection | CN1601,CN1602,CN1801,CN1802 | | |
| | | DIGITAL Assy | | CN3501 to CN3504 | | |
| | | X DRIVE Assy | | CN1202,CN1203 | | |
| | | Y DRIVE Assy | | CN2302,CN2303,CN2304 | | |
| 9 | XDRIVE | X DRIVE Assy | Connectors disconnection detection | CN1001 | | |
| | | DIGITAL Assy | | CN3505 | | |
| 10 | X-DCDC | X DRIVE Assy | Connectors disconnection detection | CN1201 | | |
| | | | 15VDD UVP | X SUS BLOCK | L1201,R1217 | |
| | | | | 15VDC/DC | Q1402 | |
| | | | VXKOFS1 UVP | VXKOFS1 Regulator | Q1403,Q1404,IC1401 | |
| | | | | X OFFSET BLOCK | Q1301,Q1303 | |
| | | | VXKOFS2 UVP | VXKOFS2 Regulator | Q1405,Q1406,IC1402 | |
| | | | | X OFFSET BLOCK | Q1302,Q1304 | |
| 11 | X-SUS | X DRIVE Assy | Center electric potential detection PD | X RESONANCE BLOCK | Q1108,Q1109,Q1110,Q1112,<br>D1106,D1107,D1110,D1111 | |

UVP: Under Voltage Protect , OVP: Over Voltage Protect

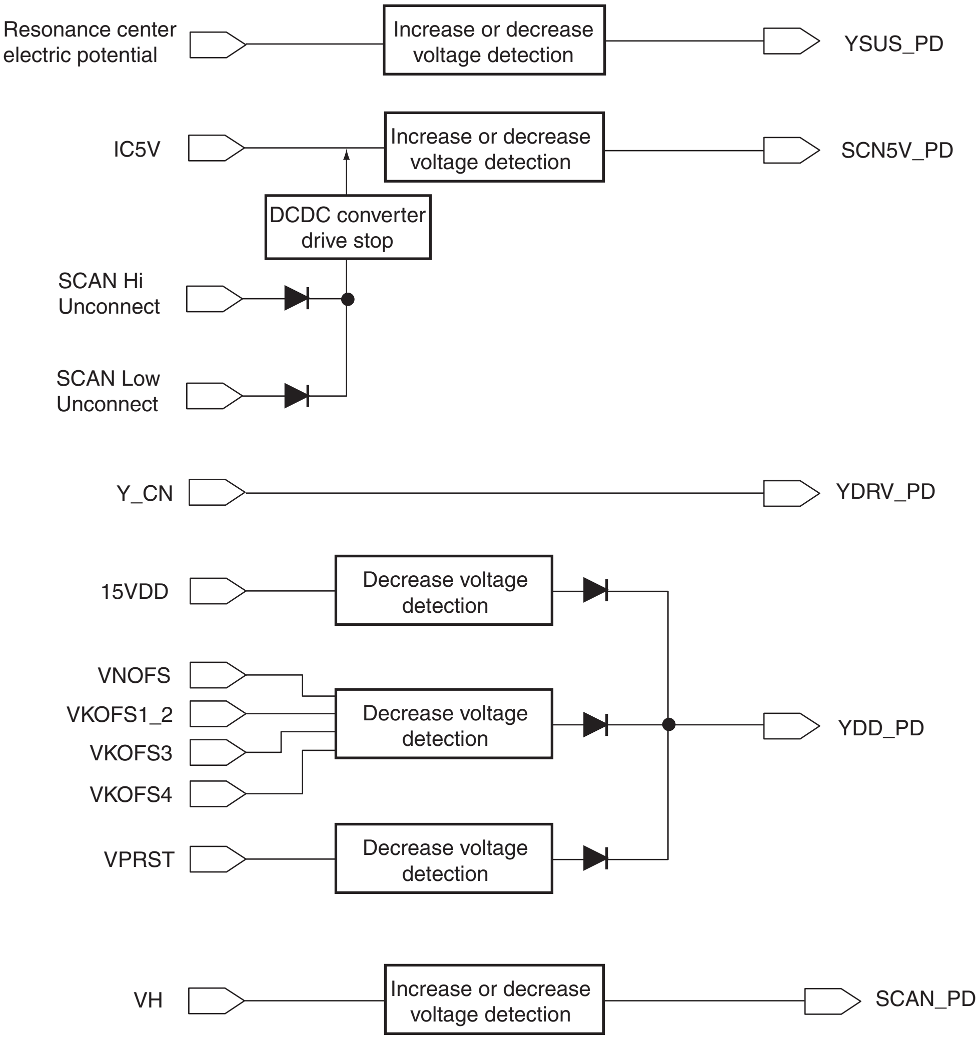
## How to distinguish which connector is disconnected

| Assy | Connector | To which Assy the Connector is Connected | LED Flashing Count | Screen Display |
|---|---|---|---|---|
| X DRIVE Assy | CN1001 | DIGITAL Assy | 5 (XDRIVE) | |
| | CN1201 | POWER SUPPLY Unit (drive system power) | 11 (X-SUS) | |
| | CN1202 | POWER SUPPLY Unit (ADR system power) | 8 (ADRS) | |
| | CN1203 | ADDRESS Assy | 8 (ADRS) | |
| Y DRIVE Assy | CN2001 | DIGITAL Assy | 3 (SCAN) | |
| | CN2301 | POWER SUPPLY Unit (drive system power) | 3 (SCAN) | |
| | CN2302 | POWER SUPPLY Unit (ADR system power) | 8 (ADR) | |
| | CN2303,<br>CN2304 | ADDRESS Assy | 8 (ADR) | |
| | CN2501,<br>CN2502 | SCAN A, B Assy | 4 (SCN-5V) | |
| SCAN A, B Assy | CN2801,<br>CN2901 | Y DRIVE Assy | 4 (SCN-5V) | |
| ADDRESS Assy | CN1602,<br>CN1802 | DIGITAL Assy | 8 (ADRS) | |
| | CN1601,<br>CN1801 | X DRIVE Assy,<br>Y DRIVE Assy | 8 (ADRS) | |

## X Drive PD system


Resonance center electric potential
Increase or decrease voltage detection
XSUS_PD
X_CN
XDRV_PD
15VDD
Decrease voltage detection
VXKOFS1
Decrease voltage detection
VXKOFS2
Decrease voltage detection
XDD_PD

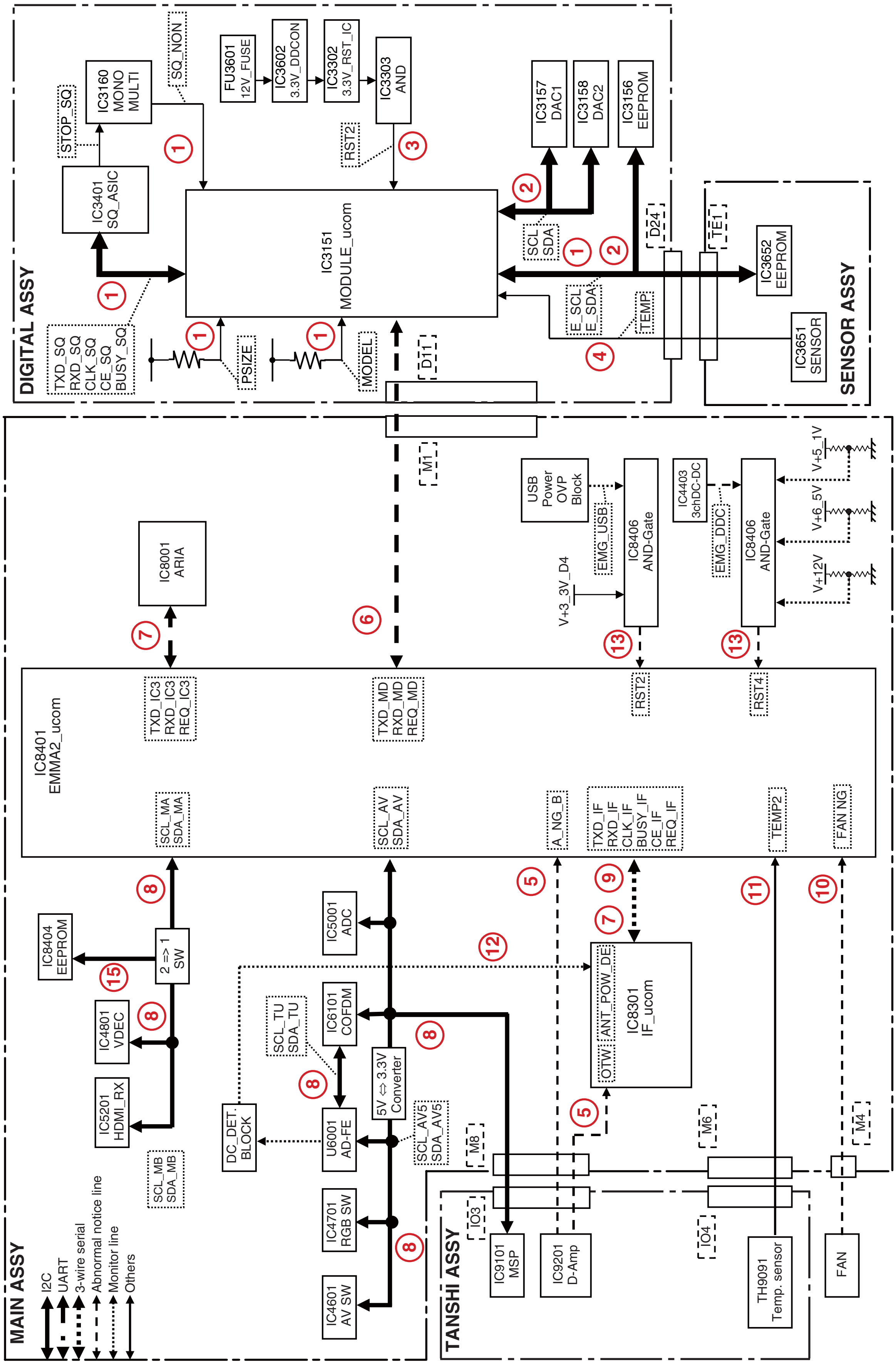
## Y Drive PD system


Resonance center electric potential
Increase or decrease voltage detection
YSUS_PD
IC5V
Increase or decrease voltage detection
SCN5V_PD
DCDC converter drive stop
SCAN Hi Unconnect
SCAN Low Unconnect
Y_CN
YDRV_PD
15VDD
Decrease voltage detection
VNOFS
VKOFS1_2
VKOFS3
VKOFS4
Decrease voltage detection
YDD_PD
VPRST
Decrease voltage detection
VH
Increase or decrease voltage detection
SCAN_PD

## 5.4 DIAGNOSIS OF SD (SHUTDOWN)

### 5.4.1 BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL

**■ Block Diagram of the Shutdown Signal**


DIGITAL ASSY
IC3160 MONO MULTI
STOP_SQ
SQ_NON
FU3601 12V_FUSE
IC3602 3.3V_DDCON
IC3302 3.3V_RST_IC
IC3303 AND
RST2
IC3401 SQ_ASIC
TXD_SQ RXD_SQ CLK_SQ CE_SQ BUSY_SQ
IC3151 MODULE_ucom
PSIZE
MODEL
D11
IC3157 DAC1
IC3158 DAC2
IC3156 EEPROM
SCL SDA
E_SCL E_SDA
TEMP
D24
TE1
IC3652 EEPROM
IC3651 SENSOR
SENSOR ASSY
M1
USB Power OVP Block
EMG_USB
IC8406 AND-Gate
IC4403 3chDC-DC
EMG_DDC
V+3_3V_D4
V+5_1V
V+6_5V
V+12V
IC8001 ARIA
IC8401 EMMA2_ucom
TXD_IC3 RXD_IC3 REQ_IC3
TXD_MD RXD_MD REQ_MD
RST2
RST4
SCL_MA SDA_MA
SCL_AV SDA_AV
A_NG_B
TXD_IF RXD_IF CLK_IF BUSY_IF CE_IF REQ_IF
TEMP2
FAN NG
IC8404 EEPROM
2 => 1 SW
IC4801 VDEC
IC5201 HDMI_RX
SCL_MB SDA_MB
IC5001 ADC
IC6101 COFDM
SCL_TU SDA_TU
5V <=> 3.3V Converter
DC_DET. BLOCK
U6001 AD-FE
SCL_AV5 SDA_AV5
IC4701 RGB SW
IC4601 AV SW
OTW
ANT_POW_DET
IC8301 IF_ucom
M8
M6
M4
IO3
IO4
TANSHI ASSY
IC9101 MSP
IC9201 D-Amp
TH9091 Temp. sensor
FAN
MAIN ASSY
I2C
UART
3-wire serial
Abnormal notice line
Monitor line
Others
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑮

**Note :** The figures ① to ⑮ indicate the number of times the LED flashes when shut-down occurs in the corresponding route.

## 5.4.2 SD (SHUTDOWN) DIAGNOSIS

| Frequency of LED Flashing | Major Type | Detailed Type | Log Indication in Factory Mode | | Checkpoint | Possible Defective Part | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MAIN | SUB | | | |
| Blue 1 | Abnormality in the Sequence LSI | Communication error | SQ-LSI | RTRY | CLK_SQ/TXD_SQ, etc. | IC3401, IC3151 | SQ_IC communication not established. IC3401 may not have properly started up. |
| | | Drive stop | | SQNO | Check if the video sync signal is input to IC3401. | CN3001, IC3001,IC3401 | A shutdown occurs if IC3401 has not properly started up (a communication failure between IC3401 and IC3306 [FLASH]). |
| | | Busy | | BUSY | BUSY_SQ | IC3401, IC3151 | If BUSY_SQ remains high, a shutdown is generated. |
| | | Incoherent version (hardware, software) | | VER-HS | Check the model number of the DIGITAL Assy and the destination of SEQ-PROS. | IC3306, IC3151 | The written SEQ-PROG is incoherent with data on the DIGITAL Assy. |
| | | Incoherent version (memory, software) | | VER-MS | Check the model number of the DIGITAL Assy and the destination of SEQ-PROS. | IC3306, IC3151 | A shutdown occurs if the SEQ-PROG that has been stored in backup memory does not coincide with the actual SEQ-PROG. |
| Blue 2 | Failure in IIC communication with the module microcomputer | DIGITAL Assy EEPROM | MD-IIC | EEPROM | IIC communication line of IC3156 | IC3156, IC3151 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC. |
| | | SENSOR Assy EEPROM | | BACKUP | IIC communication line of IC3652 | IC3652, IC3151 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC. |
| | | DAC1 | | DAC1 | IIC communication line of IC3157 | IC3157, IC3151 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC. |
| | | DAC2 | | DAC2 | IIC communication line of IC3158 | IC3158, IC3151 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC. |
| Blue 3 | Abnormality in RST2 power decrease | – | RST2 | – | Is the output voltage of the DC-DC converter low? | IC3602(BD9302FP) | If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds. |
| | | | | | The 12 V power is not output. | POWER SUPPLY Unit,FU3601 | Check if V + 12 V is started. Also check if the FU3601 on the DIGITAL Assy has been melted. |
| Blue 4 | Abnormality in panel temperature | – | TMP-NG | TMP-H | High temperature abnormality in the panel temperature sensor | SENSOR Assy (IC3651) | If TEMP1 that is read by the module microcomputer is 75°C or higher, a shutdown will be generated. |
| | | | | TMP-L | Low temperature abnormality in the panel temperature sensor | SENSOR Assy (IC3651) | A shutdown occurs if the reading of TEMP1 detected by the module microcomputer is –20°C or less. Also check the connection with the SENSOR Assy. |
| Blue 5 | Short-circuiting of the speakers / D-AMP temperature abnormality | – | AUDIO | – | Speaker terminals | JA9301 | Check if any speaker cable is in contact with the chassis. |
| | | | | | AUDIO_AMP | IC9201, IC9101 | Check if the AMP output is short-circuited. |
| | | | | | Periphery of the cable between IO3 and M8, and IO6 and P5 | CN8803,CN4001,CN8806,P5 | Check if cables are firmly connected. |
| Blue 6 | Failure in communication with the module microcomputer | – | MODULE | – | Communication line between MAIN and MOD | IC3151, IC8401 | Check the communication lines (TXD_MOD/RXD_MOD/REQ_MOD). |
| | | | | | Periphery of the cable between D11 and M1 | CN3001, CN4101 | Check if cables are firmly connected. |
| Blue 7 | Failure in main microcomputer 3-wire serial communication | IF microcomputer | MA-3L | IF | Communication line between IF and MAIN | IC8301, IC8401 | Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF). |
| | | MULTI processor | | MULTI | Communication line between MULTI and MAIN | IC8001, IC8401 | Check the communication lines (TXD_IC3/RXD_IC3). |
| Blue 8 | Failure in IIC communication with the main microcomputer | Tuner 1 | MA-IIC | FE1 | IIC communication line between Tuner and MAIN | U6001,IC8401,IC6101 | Check the communication lines (SCL_TU/SDA_TU or SCL_AV5/SDA_AV5). |
| | | MSP/MAP | | MSPMAP | IIC communication line between MSP/MAP and MAIN | IC9101, IC8401 | Check the communication lines (SCL_AV/SDA_AV). |
| | | AV switch | | AV-SW | IIC communication line between AV-SW and MAIN | IC4601, IC8401 | Check the communication lines (SCL_AV5/SDA_AV5). |
| | | RGB switch | | RGB-SW | IIC communication line between RGB-SW and MAIN | IC4701, IC8401 | Check the communication lines (SCL_AV5/SDA_AV5). |
| | | VDEC | | VDEC | IIC communication line between M-VDEC and MAIN | IC4801, IC8401 | Check the communication lines (SCL_MB/SDA_MB). |
| | | VDEC SDRAM | | SDRAM | IIC communication line between VDEC and SDRAM | IC4801, IC4802 | Check the communication lines (SDRAM). Defective SDRAM |
| | | AD/PLL | | ADC | IIC communication line between ADC and MAIN | IC5001, IC8401 | Check the communication lines (SCL_AV/SDA_AV). |
| | | HDMI | | HDMI | IIC communication line between HDMI_RX and MAIN | IC5201, IC8401 | Check the communication lines (SCL_MB/SDA_MB). |
| | | COFDEM | | DEMOD | IIC communication line between COFDM and MAIN | IC6101, IC8401 | Check the communication lines (SCL_AV/SDA_AV). |
| Blue 9 | Failure in communication with the main microcomputer | – | MAIN | – | Communication line between IF and MAIN | IC8301, IC8401 | Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF). |
| Blue 10 | FAN NG | FAN1 | FAN | FAN1 | Dirt attached to the fan motor | – | Check the fan(AXM1057). |
| | | | | | Periphery of the FAN CONNECT | AWW1290, AWW1329 | FAN NG |
| | | | | | Periphery of the cable between FA1 and M5, FAN and M4, and FA2 and FA5 | CN9551 to CN9555,CN4103,CN4108 | Check if cables are firmly connected. |
| | | | | | Periphery of the fan control regulator | IC4310, IC4303 | – |
| Blue 11 | High temperature of the unit | – | TEMP2 | – | Temperature sensor or its periphery | – | TEMP2  A shutdown occurs because of high temperature. |
| | | | | | Periphery of the temperature sensor | TH9091 | TEMP2 |
| | | | | | Periphery of the cable between IO4 and M6 | CN8804, CN4004 | Check if cables are firmly connected. |
| Blue 12 | Digital Tuner | DTV startup error | DTUNER | PS/RST | – | IC8401 | Check if DTV antenna is short-circuited. |
| | | DTV ANTENNA | | D-ANT | – | – | – |
| Blue 13 | Failure in the power supply | DC-DC Converter power decrease | RST-MA | M-DCDC | DC-DC converter or its periphery, RST2 | IC4403, Q4404 | Check if V + 3.3 V_D4 is started. |
| | | | | | EMG_USB | IC4309 | Check if the voltage at a waveform check point is 5 V. |
| | | POWER SUPPLY | | RELAY | The 12 V power is not output, RST4 | POWER SUPPLY Unit | Check if V + 12 V is started. |
| | | | | | The 6.5 V power is not output | POWER SUPPLY Unit | Check if V + 6.5 V is started. |
| | | | | | The 5.1 V power is not output | POWER SUPPLY Unit | Check if V + 5.1 V is started. |
| | | | | | EMG_DDC | DCDC converter | Check if the DCDC converter is overloaded. |
| | | | | | Periphery of the cable between P8 and M3 | CN4105 | Check if cables are firmly connected. |
| Blue 15 | Main EEPROM | Main EEPROM communication error | MA-EEP | – | IIC communication line between EEPROM and MAIN | IC8404, IC8401 | Check the communication lines (SCL_EP/SDA_EP). |

# 5.5 NON-FAILURE INFORMATION

## 5.5.1 INFORMATION ON SYMPTOMS THAT DO NOT CONSTITUTE FAILURE

### ■Information on symptoms that do not constitute failure

| Symptom | Cause, item to check, information |
|---|---|
| **HDMI: Symptoms concerning the input format and settings** | |
| The picture color for an INPUT 1 or 3 or 4 signal is not correct. | The color setting for INPUT 1 or 3 or 4 is not compatible with that of the output equipment.<br>Check whether the color setting is YPbPr or RGB. |
| The video signal to INPUT 1 or 3 or 4 is not displayed, and a message is displayed. | A unsupported video signal is input. |
| The audio signal input to the INPUT 1 or 3 is not output.<br>No HDMI signal is input. | The audio setting for INPUT 1 or 3 is "AUTO," and a video signal is not input. If the audio setting is "AUTO," to output an analog audio signal, the HDMI signal must be input. (If a DVI device is to be connected, use a DVI-HDMI conversion cable.) If the HDMI video signal is not input, the analog audio signal is not output.<br>When the DVI equipment is connected, the analog signals are selected with the setting "AUTO." |
| No sound of signals to INPUT 1 or 3 or 4 is output. | The setting on the side of the HDMI output equipment is wrong.<br>Example: Dolby Digital |
| The 1080p input signal is not displayed properly or at all, although the 1080i input signal is displayed properly. | Check that the connected cable supports HDMI Category 2. (As the clock frequency for the 1080p signal is triple that for the 1080i signal, signal degradation caused by a cable must not be neglected. A cable supporting HDMI Category 2 can be used for the 1080p signal. Although some conventional cables can support the 1080p signal, some others cannot.) |
| **SCART video output** | |
| The video output signal from the SCART connector is deteriorated. Or when the video output signal from the SCART connector is recorded, its playback picture is deteriorated. | The video signal output from the SCART connector is Macrovision protected. |
| The video signal is not output when the component signal is input to INPUT 2. | The video signal is not output from the SCART connector when the component signal is selected. |
| The video signal is not output when the video signal is input to INPUT 1 or 3 or 4. | The video signal is not output from the SCART connector when the HDMI signal is selected. |
| **AUDIO OUT and SCART** | |
| The image displayed on the PDP is not synchronized with the sound from the SCART. | The audio signal from the SCART connector is synchronized with the video output signal from the SCART connector.<br>And the audio signal from the AUDIO OUT is synchronized with the video signal that is currently displayed. |
| **DIGITAL OUT** | |
| Playback of the signal from the DIGITAL audio output connector is possible, but recording is not possible. | The video signal output from the DIGITAL connector is copy-protected. |
| The digital audio output signal from the DIGITAL connector is not synchronized with that from the SCART video output. | The digital audio output signal from the DIGITAL connector is synchronized with the video signal that is currently displayed, and not with the SCART video output. |
| **Miscellaneous** | |
| The no-signal off function is not activated. | The no-signal off and no-operation off functions are effective only if video (composite, S video, component, HDMI [excluding PC]) input or TV input is selected. |
| The no-operation off function is not activated. | |
| Power management does not function. | Power Management is effective only while an analog PC signal is being input. It is not effective with HDMI-PC signal input. |
| The AUTO SETUP function is not activated. | The Auto Setup function is effective only while an analog PC signal is being input. This function does not work if an analog PC signal is not input, even if the INPUT PC is selected. |
| The audio signal from the PC is not output. | Wrong connection of the cable to the SR connector is suspected. |
| Control via the SR connector is not possible. | Wrong connection of the cable to the PC INPUT (AUDIO) connector is suspected. |
| The picture-quality setting (AV Selection) is not stored. | The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored. |
| The picture size changes arbitrary. | The Auto Size setting is set to ON. |
| The display position of the screen changes slightly while the screen is on. | The orbiter function for minimizing the effects of phosphor burn is activated. Although the setting for this function can be changed on the Home menu, retaining the factory setting is strongly recommended. |
| The video signal to the S video connector is not displayed. | As the signal input to the connector that has been selected on the INPUT SELECT submenu of the Home menu is selected (this does not apply to the connectors located on the side of the unit), check the menu setting. If the output signal is not available even if the input signal is properly selected, input a signal to other input functions, check the connecting cables, or check the settings for the connected equipment. |
| The video signal to the composite video connector is not displayed. | |

**SUPPLEMENT: On the video setting for HDMI**

There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.
(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)

It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.
In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVi, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

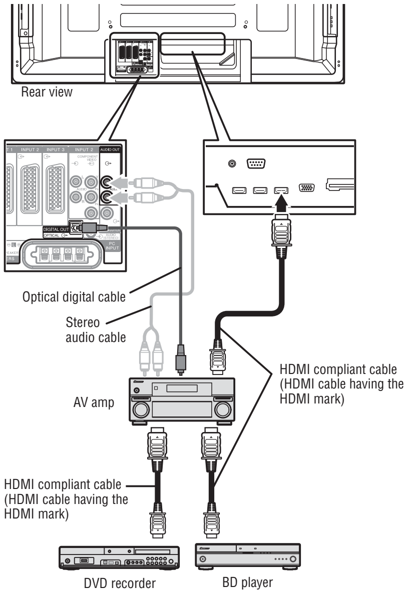
## 5.5.1.1 CONFIRMATION ON THE HDMI CONTROL FUNCTION

When you use the HDMI Control (HDMI-CEC) function, if the unit does not function properly, such as not being able to control or recognize connected equipment, check the following:

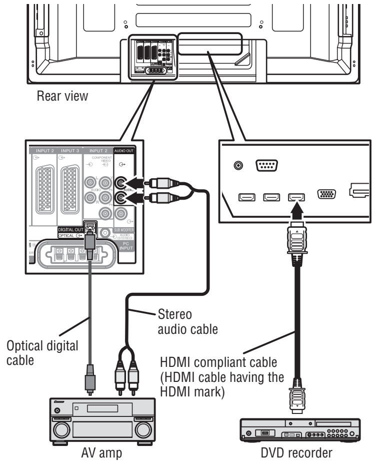
- **Confirmation of the manufacturer of the connected equipment**
  Check if the connected equipment was manufactured by Pioneer and if it supports the HDMI Control function.
  If its manufacturer is not Pioneer, proper operations are not guaranteed.

- **Confirmation of connections**
  Check if the unit is connected properly, as shown in the figures below:
  (For details, refer to "Making the HDMI Control connections" in the Operating instructions.)

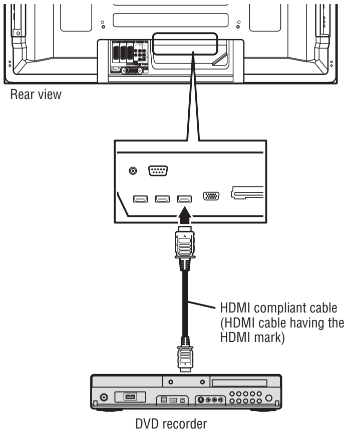
### • PDP-5080XD and PDP-508XD


Rear view
Optical digital cable
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Example 1: When an AV amplifier that supports HDMI Control is connected

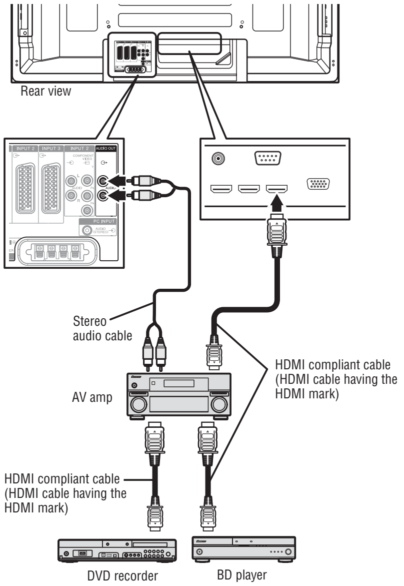

Rear view
Optical digital cable
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
DVD recorder

Example 2: When an AV amplifier that does not support HDMI Control is connected

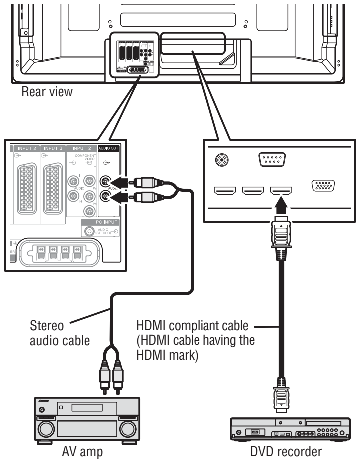

Rear view
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder

Example 3: When an AV amplifier is not connected

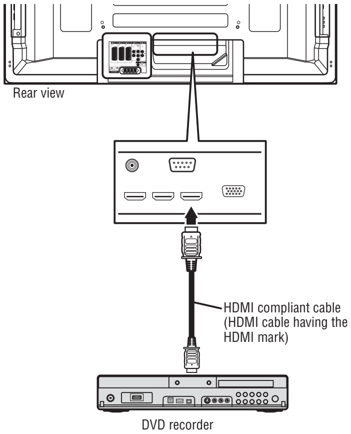
### • PDP-5080XA


Rear view
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Example 1: When an AV amplifier that supports HDMI Control is connected


Rear view
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
DVD recorder

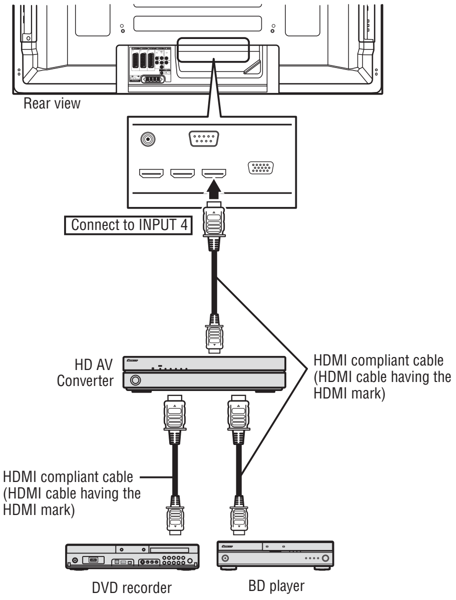
Example 2: When an AV amplifier that does not support HDMI Control is connected


Rear view
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder

Example 3: When an AV amplifier is not connected

Check that the following conditions are met:
- The connected equipment must support the HDMI Control function.
- The equipment must be connected to the INPUT connector that has been selected in "Input Setting" on the HDMI Control Setting menu.
- The connections must be made properly, as shown in the above figures (in a case where an AV device, such as an AV amplifier, and a DVD recorder/BD player are connected, in a case where only a DVD recorder/BD player is connected, and in a case where an AV device, such as an AV amplifier, which does not support HDMI-CEC, is connected).
- When an AV device that supports the HDMI Control function is connected, it must be connected between the PDP and a DVD recorder/BD player.
- An AV device, such as an AV amplifier, and the HD AV Converter must not be connected simultaneously.
- The HDMI Control function must be activated on the connected equipment (DVD recorder, BD player, AV device [AV amplifier, etc.], or the HD AV Converter). (Refer to the instruction manual of the connected equipment.)

If the HD AV Converter is connected, check if it is connected properly, as shown in the figure below.
(For details, refer to "Selecting the HD AV Converter" and "HD AV Converter mode" in the Operating instructions.)


Rear view
Connect to INPUT 4
HD AV Converter
HDMI compliant cable (HDMI cable having the HDMI mark)
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Check that the following conditions are met:
- The HD AV Converter must be connected to the INPUT 4 connector of the PDP.
- The HD AV Converter must be connected between the PDP and a DVD recorder/BD player, as shown in the figure above.
- The AV device, such as an AV amplifier, and the HD AV Converter are not connected simultaneously.
- The HDMI Control function must be activated on the HD AV Converter. (For details, refer to the instruction manual of the HD AV Converter.)

### • Confirmation of the number of connected devices

Check that the number of connected devices does not exceed the maximum number for guaranteed operations.

| Equipment | Maximum Number |
|---|---|
| DVD recorder | 2 |
| BD player | 2 |
| AV System | 1 (∗1) |
| HD AV Converter | 1 (∗1) |

(∗1) Operation with either an AV device (AV amplifier, etc.) or the HD AV Converter is guaranteed. If both are connected, their operations are not guaranteed.

### • Confirmation of settings

Check that the settings for the HDMI Control function are properly made. (For details, refer to "Setting the HDMI Control" in the Operating instructions.)

Check that the following conditions are met:
- "Input Setting" on the HDMI Control Setting menu must be set to the same input as that to which the equipment that supports the HDMI Control function is connected.
- When the HD AV Converter is connected, "HD AV Converter" on the HDMI Control Setting menu must be set to Enable.
- When Power Off Control, Power-On Ready, or Hold Sound Status are to be used, their settings must be On.
- When the HD AV Converter is connected, the HDMI Control switch on the rear panel of the HD AV Converter must be set to ON. The HDMI Control indicator on the front panel of the HD AV Converter will light in green when HDMI Control is enabled. (The HDMI Control indicator's lighting in green means HDMI Control is possible.)

### • Confirmation of operations

Check that the HDMI Control function works properly.

(1) Connect a device that supports the HDMI Control function.

(2) Perform the procedures that are required after changing connections, which are described in "Making the HDMI Control connections" in the Operating instructions.

1 Turn on the plasma television and all the connected devices.
2 Confirm that the setting in “Input Setting” for “HDMI Control Setting” is properly entered according to the connected devices. Also confirm the HDMI Control related settings in the connected devices.
3 Switch to the HDMI input terminals to which the devices are connected to check if audio and video images are properly output and displayed.
4 Try turning off the plasma television, then turn the power back on to the plasma television.

(3) Perform "Power On Test" or "Power Off Test" on the HDMI Control Setting menu. (For details, refer to "Power On/Off Test" in the Operating instructions.)

If the following occurs even if the operation check is performed properly, a failure, such as breakage of the HDMI cable, problems on the side of the connected device, and problems with the MAIN Assy, may be suspected:

- "Power On Test" or "Power Off Test" cannot be selected (the items are grayed)
- The connected device cannot be turned on/off.

In some cases, an operation check using another HDMI input connector may be required in order to narrow down the cause.

As for the HD AV Converter, because "Power On Test" / "Power Off Test" is not available, follow the procedures below:

(1) Connect the HD AV Converter to the INPUT 4 connector. Set "HD AV Converter" on the HDMI Control Setting menu to Enable. The HD AV Converter can support HDMI Control only when it is connected to the INPUT 4 connector of the PDP.

(2) Perform the procedures that are required after changing connections, which are described in "Making the HDMI Control connections" in the Operating instructions.

(3) Turn the PDP off. If the PDP turns off properly, turn the HD AV Converter off.

If the following occurs even if the operation check is performed properly, a failure, such as breakage of the HDMI cable, problems on the side of the HD AV Converter, and problems with the MAIN Assy, may be suspected:

- The HD AV Converter cannot be turned off.

## 5.5.2 FUNCTION OF DECREASING THE BRIGHTNESS LEVEL

### ■ High-temperature protection function 1

If the panel temperature (TEMP1) reaches 70 °C, the limit for the maximum count of plasma discharge will be gradually decreased to lower the temperature of the panel.

- This function is activated based on the TEMP1 temperature.
- The limit for the maximum count of plasma discharge will be decreased 8 per 5 seconds.
- The lowest limit for the maximum count of plasma discharge is about 700.
- The maximum count of plasma discharge will begin to increase gradually if the panel temperature falls to the specified temperature.

### ■ High-temperature protection function 2

If the panel temperature (TEMP1) reaches 65 °C, the plasma-discharge count that is determined based on the input APL will be decreased. In actual operation, the ABL adjustment value will be offset.

- This function is activated based on the TEMP1 temperature.
- The ABL adjustment value will be decreased by one step per 30 seconds.
- The ABL adjustment value will begin to increase gradually if the panel temperature falls to the specified temperature.

### ■ Panel protection function 1 (protection against still picture)

If a still picture is displayed for 3 minutes or more, the limit for the maximum count of plasma discharge will be gradually decreased to minimize the effects of phosphor burn.

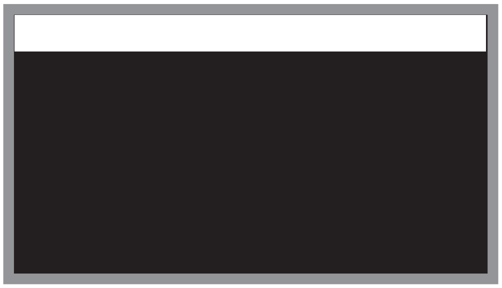
- This function is activated after detection if the displayed picture is still (the picture will be considered to be still if only the mouse cursor is moved).
- The limit for the maximum count of plasma discharge will be decreased 8 per 5 seconds.
- The lowest limit for the maximum count of plasma discharge is about 700 (it takes about 15 minutes to reach the lowest limit, although the required time varies depending on the displayed picture).
- The maximum count of plasma discharge will begin to increase gradually if the displayed picture is changed to animated picture.

**Note:** How to decrease the brightness level in this function is the same as in high-temperature protection function 1.

### ■ Panel protection function 2 (SCAN IC protection)

If a particular load is applied to the SCAN IC, the limit for the maximum count of plasma discharge will be gradually decreased.

**Note:** How to decrease the brightness level in this function is the same as in high-temperature protection function 1.

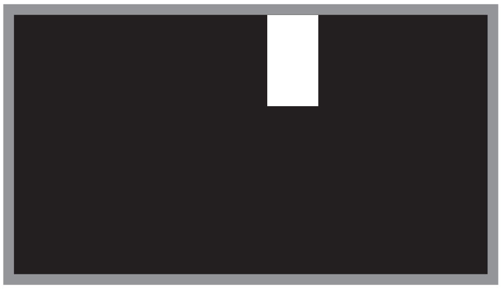


Detection example: SCAN IC protection

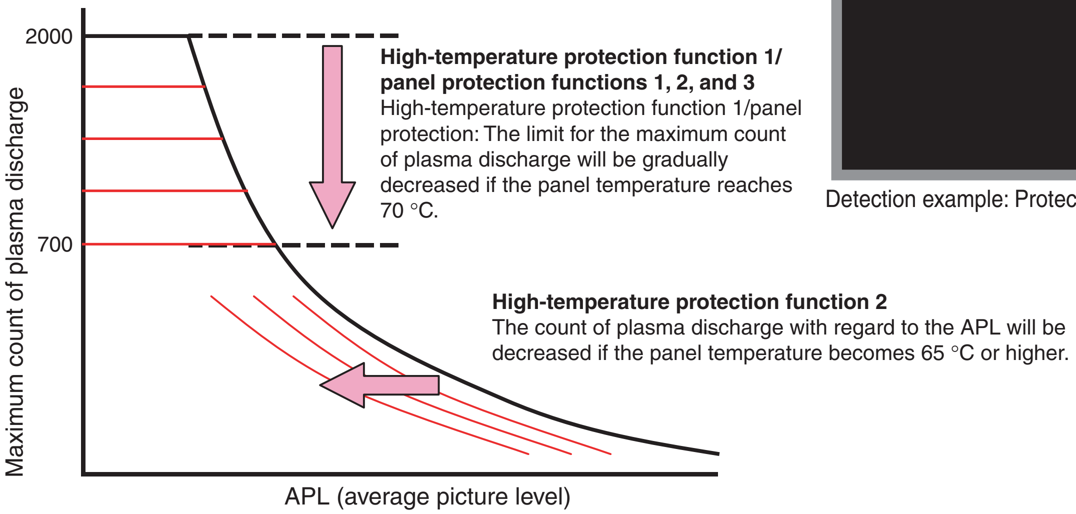
### ■ Panel protection function 3 (protection against panel cracking)

A bright window, as shown in the figure on the right, on the screen increases the heat of the panel. If such a pattern is recognized on the screen, the limit for the maximum count of plasma discharge will be gradually decreased.

**Note:** How to decrease the brightness level in this function is the same as in high-temperature protection function 1.



Detection example: Protection against panel cracking



**High-temperature protection function 1/ panel protection functions 1, 2, and 3**
High-temperature protection function 1/panel protection: The limit for the maximum count of plasma discharge will be gradually decreased if the panel temperature reaches 70 °C.

**High-temperature protection function 2**
The count of plasma discharge with regard to the APL will be decreased if the panel temperature becomes 65 °C or higher.

## 5.6 OUTLINE OF THE OPERATION

### 5.6.1 PANEL DRIVE-POWER ON/OFF FUNCTION

**Function:**
It is an operational mode where the digital signal processing performs circuit operation but the power is not supplied to the panel driving system (Vsus, VAddress) in order to avoid a power down (PD).

**Application:**

1. When it is necessary to check whether the signal output is correctly reaching the drive system in a repairing activity etc.
2. In the case of a PD, to determine whether the problem is with the panel drive-power supply or with the other system power supply.

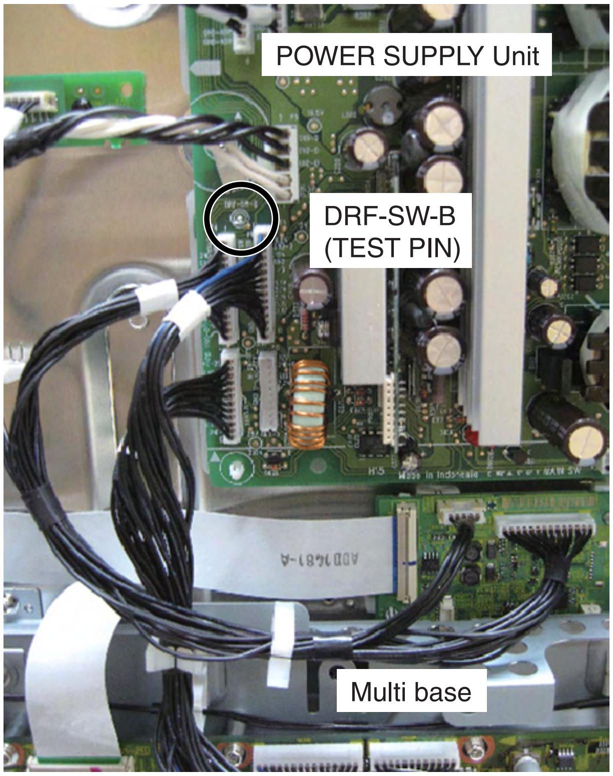
**Method:**

1. Short-circuit between the specified location of the POWER SUPPLY Unit and GND (Multi base section recommended), using a jumper with alligator clips (refer to the photos below).
2. Execute [DRV S00] by RS-232C command. ([DRV S01] for release)

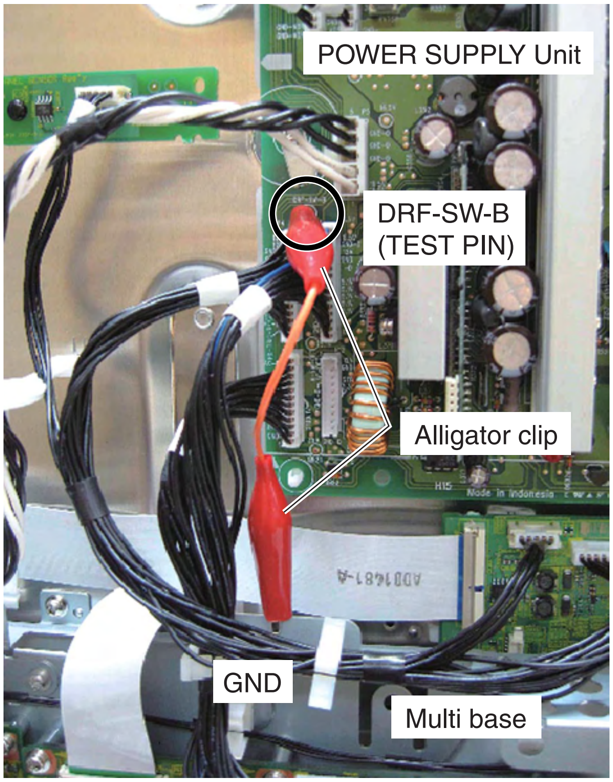
**Supplemental explanation:**

- When the panel drive-power is in OFF state, there will be no PD, except PS_PD, as the PD signal has been muted.
- If the clip is removed in the OFF state of the panel drive-power, PD will take place at the instance of clip removal. Therefore, be sure to remove the clip after turning the power OFF.
- Under RS-232C command control, [DRV S01] (release) is possible during power ON. However, there is a possibility of damaging the set. Therefore, make this operation only after turning the power OFF.
- The [DRV S00/S01] commands are effective during Standby mode. However, if no operation is performed within about 10 seconds or more, the panel drive-power OFF state will be canceled.
- When the main power switch is set to OFF, no command is accepted.
- The panel drive-power OFF state established by the [DRVS00] command will be canceled by unplugging the AC power cord, setting the main power switch to OFF, or by performing no operation for 10 seconds or more during Standby mode.

When the panel drive-power is ON



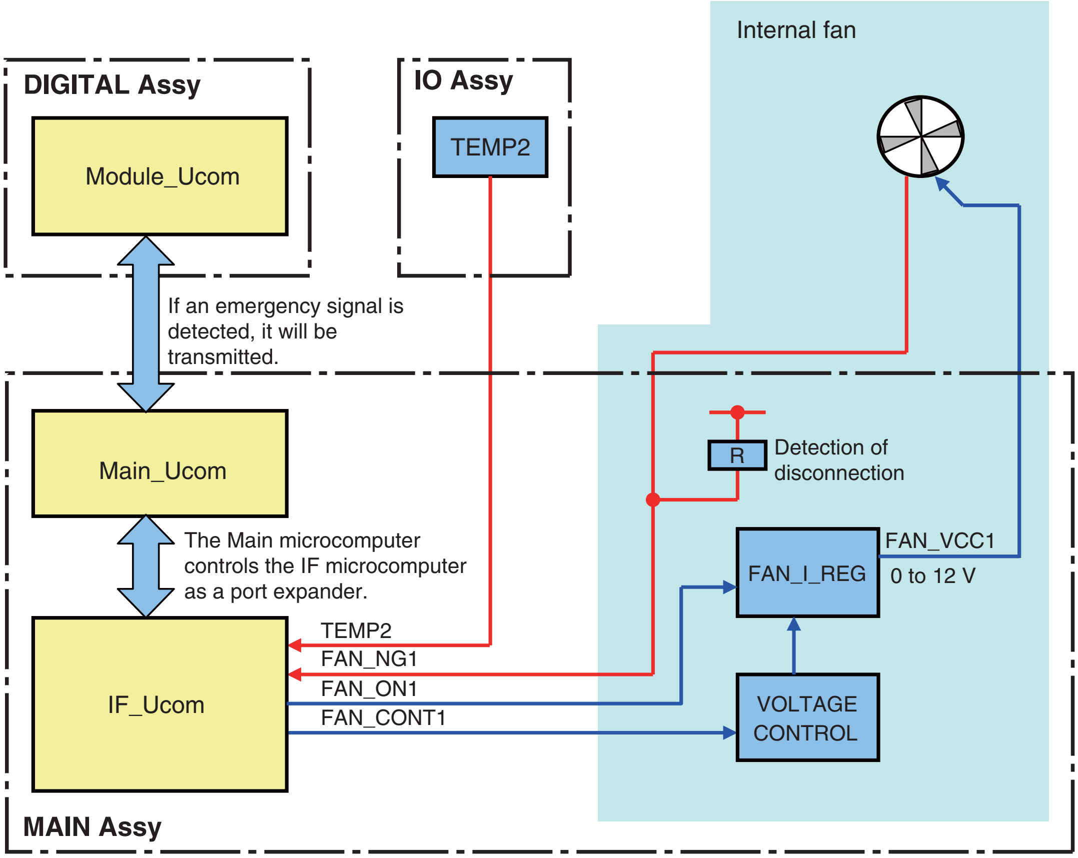
When the panel drive-power is OFF



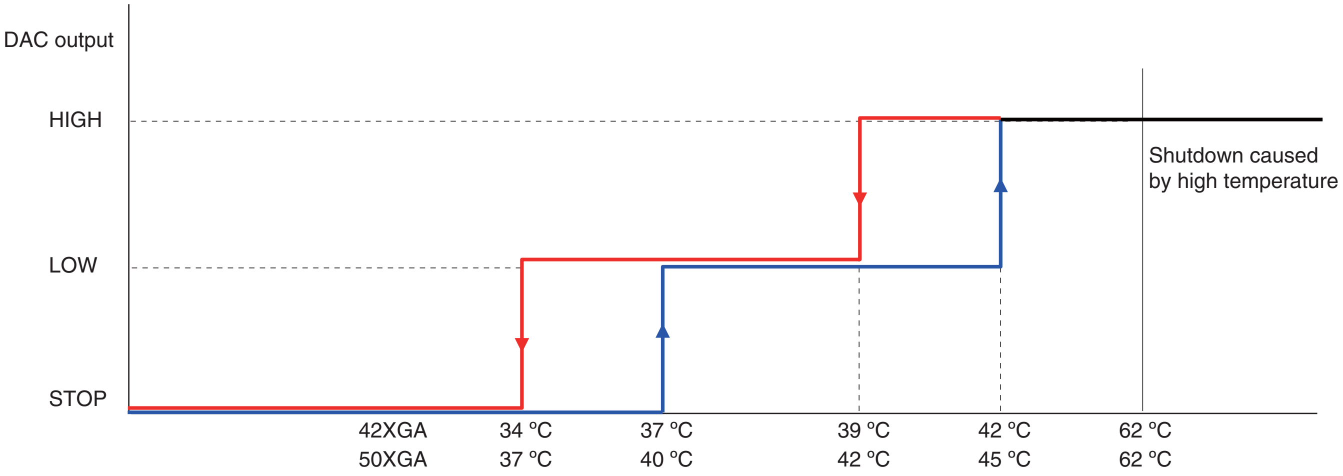
## 5.6.2 SPECIFICATION OF THE FAN CONTROL

### ■ Block diagram

The internal fan cools down the MTB and Power blocks.


Internal fan
DIGITAL Assy
Module_Ucom
IO Assy
TEMP2
If an emergency signal is detected, it will be transmitted.
Main_Ucom
R
Detection of disconnection
FAN_I_REG
FAN_VCC1
0 to 12 V
The Main microcomputer controls the IF microcomputer as a port expander.
IF_Ucom
TEMP2
FAN_NG1
FAN_ON1
FAN_CONT1
VOLTAGE CONTROL
MAIN Assy

### ■ Operation specifications



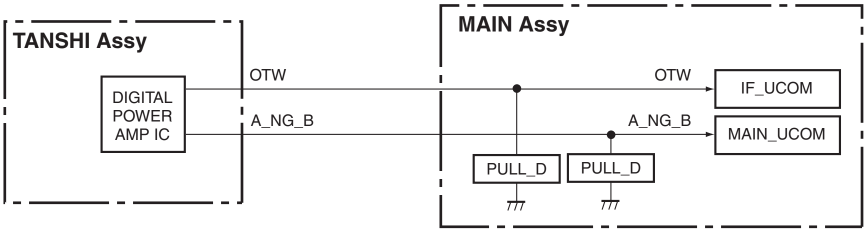
**Notes:**

- The operating temperature of the fan is higher than the ambient temperature, because the sensor temperature is read by the microcomputer.
- If the critical values for signals are displayed in the address circuit, the fan may be activated or be rotated at higher speed in response to values lower than the set temperature values shown above.

## 5.6.3 PROCESSING IN ABNORMALITY

### Protection of the Power Amplifier

#### ● Circuit configuration


TANSHI Assy
DIGITAL POWER AMP IC
OTW
A_NG_B
MAIN Assy
OTW
IF_UCOM
A_NG_B
MAIN_UCOM
PULL_D
PULL_D

#### ● Specifications for port monitoring

| Port Name | SD/PD Indication | Active | Monitoring conditions | Operation |
|---|---|---|---|---|
| A_NG_B | AUDIO | Shutdown occurs when the signal is "L."<br>30 mS ∗ 3 times | RST4 = "H" (always)<br>(Monitoring starts 2 sec after the above conditions are established.) | The main CPU operations described below will be performed when either "A_NG_B = L" or "OTW = L" is detected (established) under the monitoring conditions. |
| OTW | AUDIO | Shutdown occurs when the signal is "L."<br>130 mS ∗ 3 times | | |

#### ● Operation specifications of the main CPU

(1) When a shutdown decision is made by the main CPU

- After a warning indication is displayed for 5 sec, a shutdown is generated (the blue LED flashes 5 times).
- A warning indication is displayed for all input-signal types.
- Example of a warning indication: "The speaker terminals are short-circuited. After reconnection, turn the unit on again." (For 50-inch models) (For 42-inch models, an indication declaring a forced power-off is displayed.)

(2) Display conditions

When the panel is on: A warning indication is displayed immediately.

When the panel is off: A warning indication is not displayed immediately but is displayed when the panel is turned on.

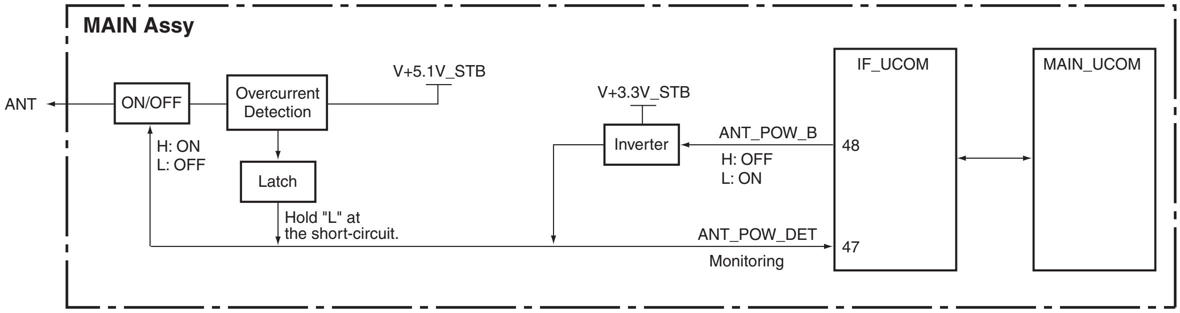
**Note:** A warning indication is displayed each time the panel is turned on if the conditions for a shutdown persist.

#### ● Conditions for resetting the circuits

The circuits will be reset upon Standby ON/OFF.

### DTB Antenna power supply

#### ● Circuit configuration

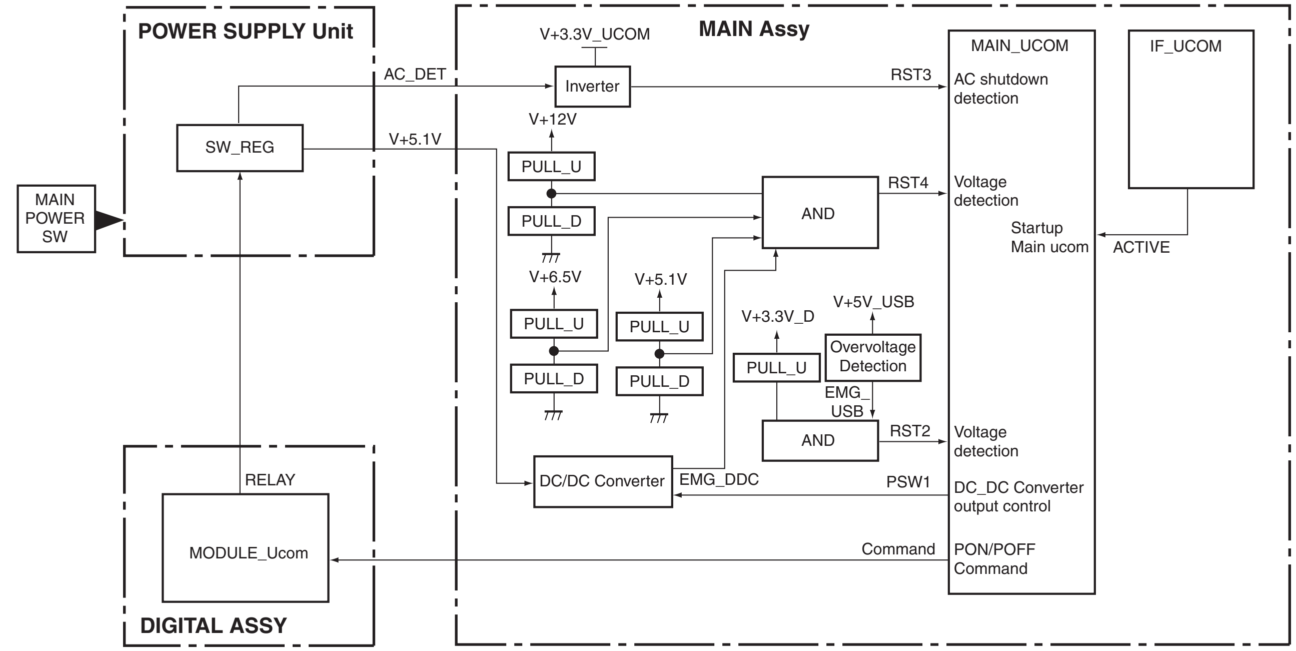

MAIN Assy
ANT
ON/OFF
Overcurrent Detection
V+5.1V_STB
H: ON
L: OFF
Latch
Hold "L" at the short-circuit.
V+3.3V_STB
Inverter
ANT_POW_B
H: OFF
L: ON
IF_UCOM
48
47
ANT_POW_DET
Monitoring
MAIN_UCOM

#### ● Specifications for port monitoring

| Port Name | SD/PD Indication | Active | Monitoring conditions | Operation |
|---|---|---|---|---|
| ANT_POW_DET | DTB antenna short-circuited | Flashing of the LED starts when the signal is L (100 mS, 3 times) | RST4 = H and ANT_POW_B = L | If "ANT_POW_DET = L" is detected (established) under the monitoring conditions, an SD log is created, and the LED flashes for 60 sec. A shutdown process is not performed in the power system. |

# Power supply and DC-DC converter

## ● Circuit configuration

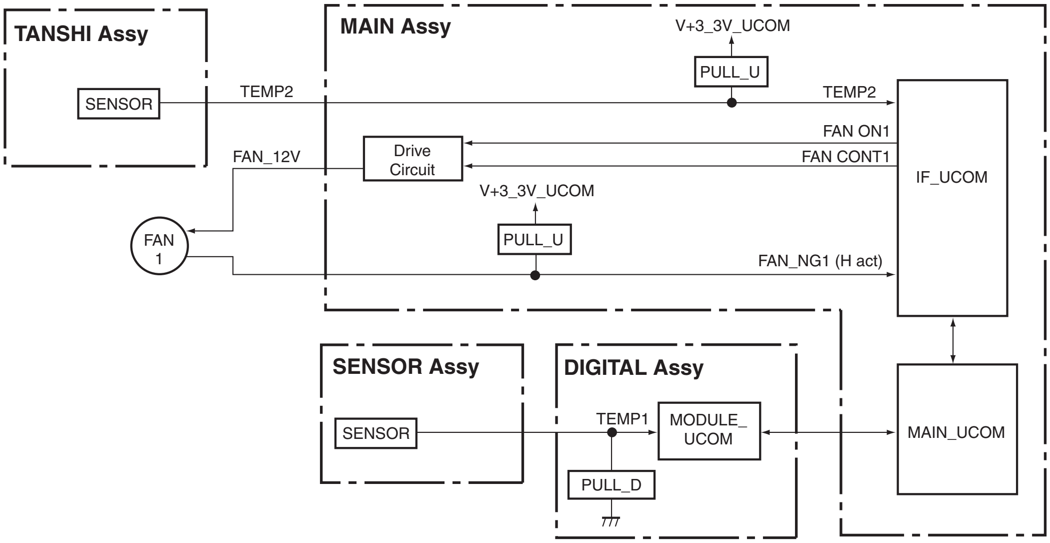

POWER SUPPLY Unit
MAIN Assy
DIGITAL ASSY
MAIN POWER SW
SW_REG
AC_DET
V+5.1V
RELAY
MODULE_Ucom
V+3.3V_UCOM
Inverter
V+12V
PULL_U
PULL_D
V+6.5V
V+5.1V
AND
V+3.3V_D
V+5V_USB
Overvoltage Detection
EMG_USB
DC/DC Converter
EMG_DDC
PSW1
Command
RST3
RST4
RST2
MAIN_UCOM
AC shutdown detection
Voltage detection
Startup Main ucom
Voltage detection
DC_DC Converter output control
PON/POFF Command
IF_UCOM
ACTIVE

## ● Specifications for port monitoring

| Port Name | SD/PD Indication | Active | Monitoring conditions | Operation |
|---|---|---|---|---|
| RST2 | ASIC power (M-DCDC) | Shutdown occurs when the signal is "L."<br>for 5 sec after PSW1 is ON.<br>or<br>for 2 sec while the unit is ON. | • Panel ON (RST4 = H and PSW1 = L)<br>• While awaiting restoration of RST2 (RST2 = L) | The SD timer starts when "RST2 = L" is detected under monitoring conditions. If "RST3 = H," "M_SW_DET_B = H," or "RST4 = L" is detected, or if a power-down or shutdown in the module microcomputer system is not generated, the unit waits for 30 ms. Then, if the SD timer continues to count for 2 sec or more, a shutdown is determined, and a shutdown process starts. A specific LED flash pattern (blue LED, 13 times) starts. The next PON operation is valid, and the flag is cleared upon the next power-on.<br>If RST2 is H, a restoration process starts according to the latest power-on/-off status. |
| RST3 | AC power | AC_OFF when the signal is "H." | • Active STB (including SD/PD statuses)<br>• Functional STB<br>• Panel ON<br>• (Areas other than North America) While the main power switch is set to OFF (M_SW_DET_B = H)<br>• (North America) While the main power switch is set to OFF (M_SW_DET_B = H)<br>• While awaiting restoration of AC power (RST3 = H)<br>• While awaiting restoration of RST2 (RST2 = L)<br>• While awaiting restoration of RST4 (RST4 = L) | If "RST3 = H" (AC_OFF) is detected under the monitoring conditions, a power-off process starts. Monitoring of the RST3 port is continued, while monitoring of other ports is interrupted. Communication is controlled only by the IF microcomputer. The port outputs are set as specified.<br>If the signal at the RST3 port continues to be H after 30 mS of waiting, monitoring is continued.<br>If RST3 is L, a restoration process starts according to the latest power-on/-off status. |
| RST4 | MAIN power (RELAY) | Shutdown occurs if the signal is "L."<br>for 5 sec after RELAY is ON.<br>or<br>for 2 sec while the unit is ON or in Functional STB. | • Functional STB<br>• Panel ON<br>• (Areas other than North America) While the main power switch is set to OFF (M_SW_DET_B = H)<br>• While awaiting restoration of RST2 (RST2 = L)<br>• While awaiting restoration of RST4 (RST4 = L) | The SD timer starts when "RST4 = L" (power-off of devices in the functional STB system) is detected under monitoring conditions.<br>The RST4 initialization process starts, and input monitoring, communication setting, and output-terminal setting are performed.<br>The RST4-SD timer starts. If either "RST3 = H" or "M_SW_DET_B = H" is detected, or if a power-down or shutdown in the module microcomputer system is not generated, the unit waits for 30 mS. Then, if the SD timer continues to count for 2 sec or more, a shutdown is determined, and a shutdown process starts.<br>A specific LED flash pattern (blue LED, 13 times) starts. The next PON operation is valid, and the flag is cleared upon the next power-on.<br>If RST4 is H, a restoration process starts according to the latest power-on/-off status. |

# Fan and temperature sensor

## Circuit configuration



## Specifications for port monitoring

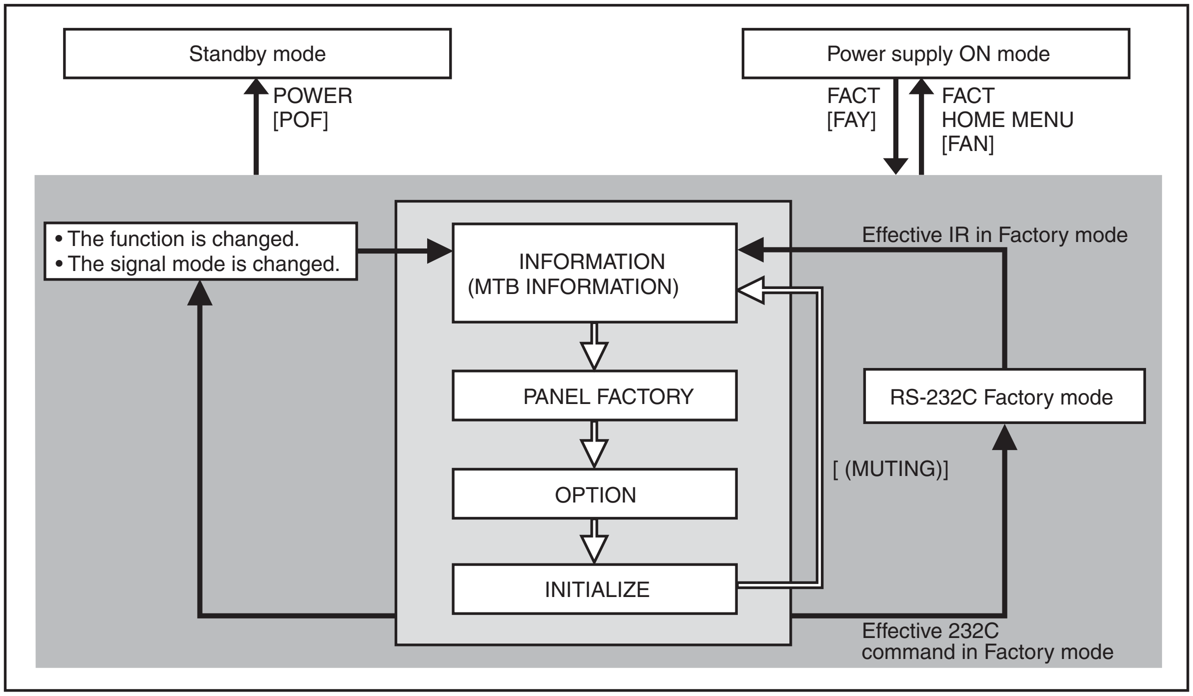
| Port Name | SD/PD Indication | Active | Monitoring conditions | Operation |
|---|---|---|---|---|
| FAN_NG1 | FAN1 | Shutdown occurs when the signal is "H."<br>1 S ∗ 3 times | RST4 = H and FAN_ON1 = H (Monitoring starts 3 sec after the above conditions are established.) | If FAN_NG1 (for details on detection logic, see "File of fan-control specifications") is detected (established) under the monitoring conditions, a shutdown process starts. A specific LED flash pattern (blue LED, 10 times) starts.<br>The next PON operation is valid, and the flag is cleared upon the next power-on. |
| TEMP2 | High temperature at MTB | Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected.<br>1 S ∗ 3 times | RST4 = H (Monitoring starts 1 sec after the above conditions are established.) | If any values equal to or greater than minimum to require a shutdown are detected (established) under the monitoring conditions, a warning indication will be displayed for 30 sec, after which a shutdown process starts. A specific LED flash pattern (blue LED, 11 times) starts.<br>The next PON operation is valid, and the flag is cleared upon the next power-on. |
| TMP_NG | High temperature in the drive circuits | Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected.<br>200 mS ∗ 5 times (average) | Digital video RST2 = H | If any values equal to or greater than minimum to require a shutdown is detected (established) under the monitoring conditions, those changes in status will be transmitted to the main microcomputer via the UART. Upon receiving the data, a warning indication will be displayed for 30 sec, after which a shutdown process starts. The main microcomputer orders a specific LED flash pattern (blue LED, 4 times).<br>The next PON operation is valid, and the flag is cleared upon the next power-on. |
| | Low temperature in the drive circuits | | | If any values equal to or greater than minimum to require a shutdown is detected (established) under the monitoring conditions, those changes in status will be transmitted to the main microcomputer via the UART. Upon receiving the data, the main microcomputer orders a specific LED flash pattern (blue LED, 4 times).<br>The next PON operation is valid, and the flag is cleared upon the next power-on. |

# 6. SERVICE FACTORY MODE

## 6.1 OUTLINE OF THE SERVICE FACTORY MODE

Operations during Service Factory mode are described here.

### 6.1.1 SERVICE FACTORY MODE TRANSITION CHART


Standby mode
Power supply ON mode
POWER
[POF]
FACT
[FAY]
FACT
HOME MENU
[FAN]
• The function is changed.
• The signal mode is changed.
INFORMATION
(MTB INFORMATION)
Effective IR in Factory mode
PANEL FACTORY
RS-232C Factory mode
[ (MUTING)]
OPTION
INITIALIZE
Effective 232C
command in Factory mode

### 6.1.2 HOW TO ENTER/EXIT SERVICE FACTORY MODE

**■ How to enter Service Factory Mode**

By using a PDP service remote control)

- PDP service remote control : Press [FACTORY] key.

By issuing RS-232C commands )

- During normal Standby mode : Issue [PON] then [FAY].
- During normal operation mode : Issue [FAY].

**■ How to exit Service Factory Mode**

By using a PDP service remote control)

- PDP service remote control : press [FACTORY] key.
- Supplied remote control unit : press [HOME MENU] key.

By issuing RS-232C commands)

- Issue [FAN].

**■ How to enter Service Factory Mode by Using the supplied Remote Control Unit**

- Same as previous model. Please refer to the technical document (Service Know-how).

## 6.1.3 FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE

### Fuctions whose setting are set to OFF

The settings for the following functions are set to OFF when Service Factory mode is entered (including when the “FAY” command is received) :

| Function | Remarks |
|---|---|
| 2-Screen Operation | Input function set on the main side is selected. |
| FREEZE | |
| Auto size, Side Mask | It is not performed during Factory mode. |
| ORBITER, Mask control | Central value operation (ORBITER) |
| Sleep Timer | Cancel the operation. |
| Room light sensor | Turn off the detecting operation excepting Regular A, D model (Setting data will be retained.) |
| Blue LED dimmer | Turn off the operation (Setting data will be retained.) |
| Power control | Turn off the operation (Setting data will be retained.) |
| Image position | Central value operation |

### User data

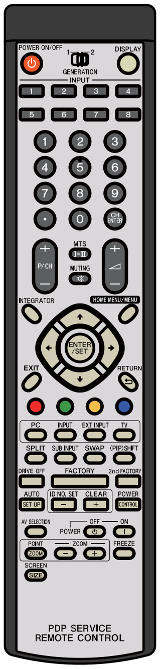
User data will be treated as follows :

- User data on picture-quality and audio-quality adjustments are not reflected, and factory-preset data are output (user data will be retained in memory). When the unit enters Service Factory mode, the current audio-quality adjustment data will be still be retained in memory.
- User-setting data will be applied to the various settings (items on the menus), signal formats, and the items that are associated with path change (HDMI settings, etc.).
- Data on screen (i.e., screen position; meaning clock dividers, and not including data on screen size).
  Are reset to the default values (data stored in memory will be retained).
  Screen size will be retained.

## 6.1.4 REMOTE CONTROL CODE IN SERVICE FACTORY MODE

| Remote Control Keys | Basic Functions | Remarks |
|---|---|---|
| MUTING | Switching the main items. | Shifting to the next main item (top). |
| ⬇ (DOWN) | Switching the subtitled items. | Shifting downward to the next subtitiled item. |
| ⬆ (UP) | Switching the subtitled items. | Shifting upward to the next upper layer. |
| ⬅ (LEFT) | Decreasing the adjustment value. | Decreasing the adjustment value. |
| ➡ (RIGHT) | Increasing the adjustment value. | Increasing the adjustment value. |
| ENTER/SET | Switching the layers. | Shifting downward or upward to the next lower or upper layer. |
| INPUT | Selecting INPUT. | Shifting the INPUT to the next function. |
| INPUTxx | Selecting INPUT. | Switching the INPUT to xx. (xx=1 to 6 etc) |
| CH+/P+ | Increasing the channel number. | |
| CH-/P- | Decreasing the channel number. | |
| Numeric Keys | Function: TV | Function: TV (previously selected channel number is selected) |
| POWER | Power OFF. | Turning the power off. |
| FACTORY | Factory OFF (Factory mode) | In Factory mode, turning Factory mode off. |
| | Factory ON (Non-Factory mode). | In Non-Factory mode, turn Fuctory mode on. |
| HOME MENU | Menu ON. | In Factory mode, turn Factory mode off. |
| VOLUME+ | Volume UP. | Increasing 10 the adjustment value. (PANEL FACTORY) |
| VOLUME- | Volume DOWN. | Decreasing 10 the adjustment value. (PANEL FACTORY) |
| DRIVE OFF (Note1) | Drive Mode OFF. | Turning Drive mode off. |
| INTEGRATOR | INTEGRATOR MENU ON. | Enter INTEGRATOR MODE. |

(Note 1) When ten seconds have passed since the [DRIVE OFF] key was pressed at the standby, it becomes invalid.
Please press [POWER] key from the [DRIVE OFF] key pressing within ten seconds when you do power supply ON while driven OFF.



PDP service
remote control

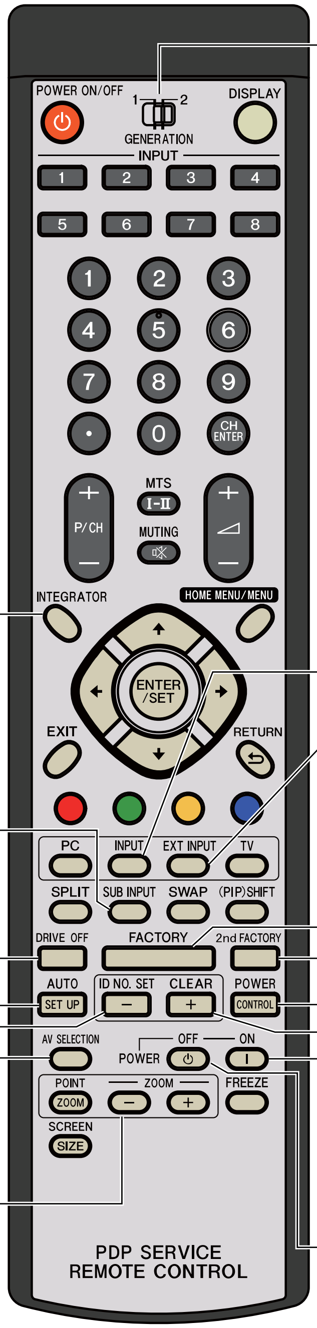
PDP-428XD
PDP-508XD

PDP-4280XD
PDP-5080XD

PDP-4280XA
PDP-5080XA

## 6.1.5 PDP SERVICE REMOTE CONTROL

- The keys labeled with the same names on the service remote control unit have the same functions as those of the supplied remote control unit. (See "2.3 PANEL FACILITIES.")
- For the keys not provided on the supplied remote control unit, see the explanations below:


POWER ON/OFF
1
2
GENERATION
DISPLAY
INPUT
1 2 3 4
5 6 7 8
1 2 3
4 5 6
7 8 9
• 0 CH ENTER
MTS
I-II
MUTING
P/CH
INTEGRATOR
HOME MENU/MENU
ENTER /SET
EXIT
RETURN
PC
INPUT
EXT INPUT
TV
SPLIT
SUB INPUT
SWAP
(PIP)SHIFT
DRIVE OFF
FACTORY
2nd FACTORY
AUTO
SET UP
ID NO. SET
CLEAR
POWER
CONTROL
AV SELECTION
POWER
OFF
ON
POINT
ZOOM
FREEZE
SCREEN
SIZE
PDP SERVICE
REMOTE CONTROL

**GENERATION** switch for remote control codes
This switch selects the generation of remote control codes to be transmitted:
1: The old-generation codes are transmitted.
2: The new-generation codes are transmitted.
With this generation plasma display, set the switch to 2.

**INTEGRATOR**
Press this key to enter Integrator mode.

**SUB INPUT**
Not used with this model.

**DRIVE OFF**
Press this key to turn off the panel drive. For details on how to cancel this command, see the explanation for the DRV command.

**AUTO SETUP**
Use this key for automatic setup, such as the display position setting when an analog PC signal is input.

**ID NO. SET**
Not used with this model.

**AV SELECTION**
The AV SELECTION settings are changed cyclically.

**POINT ZOOM**
Not used with this model.

**ZOOM +/-**
Not used with this model.

**INPUT**
Press this key to cyclically change the input source.

**EXT INPUT**
Press this key to cyclically change only the external input source.

**FACTORY**
Press this key to enter Factory mode.

**2nd FACTORY**
Not used with this model.

**POWER CONTROL**
Not used with this model.

**CLEAR**
Not used with this model.

**POWER ON**
Press this key to turn on the unit.
This key cannot turn the unit off.

**POWER OFF**
Press this key to turn off the unit.
This key cannot turn the unit on.

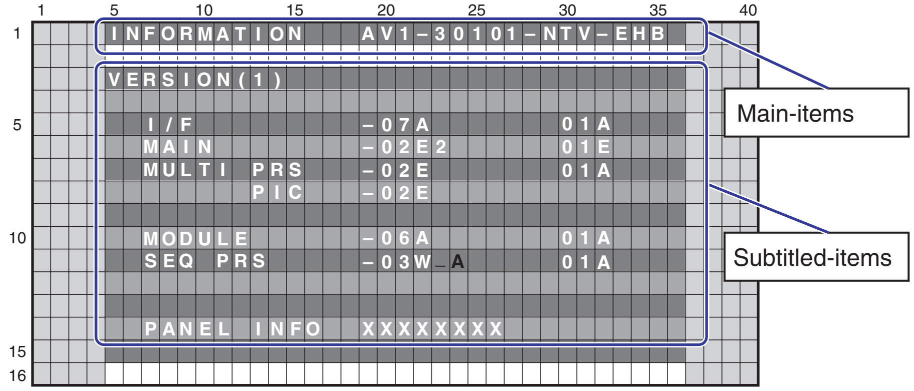
## 6.1.6 FACTORY HIERARCHICAL TABLE

| Large Item | Middle Item | Small Item | Variable / Adjustment Range | Remarks |
|---|---|---|---|---|
| **6.2.1 INFORMATION** | | | | |
| | 6.2.1.1 VERSION (1) | | | |
| | 6.2.1.2 VERSION (2) | | | |
| | 6.2.1.3 MAIN NG | CLEAR <=> | NO <=> YES | |
| | 6.2.1.4 TEMPERATURE | | | |
| | 6.2.1.5 HOUR METER | | | |
| | 6.2.1.6 HDMI SIGNAL INFO 1 | | | |
| | 6.2.1.7 HDMI SIGNAL INFO 2 | | | |
| | 6.2.1.8 VDEC SIGNAL INFO 1 | | | |
| | 6.2.1.9 VDEC SIGNAL INFO 2 | | | |
| **6.2.2 PANEL FACTORY (+)** | | | | |
| | 6.2.2.1 PANEL INFORMATION | | | |
| | 6.2.2.2 PANEL WORKS | | | |
| | 6.2.2.3 POWER DOWN | | | |
| | 6.2.2.4 SHUT DOWN | | | |
| | 6.2.2.5 PANEL-1 ADJ (+) | VOL SUS <=> | 000 to 255 | Equivalent to VSU (Setting value: Factory adjustment value) |
| | | VOL OFFSET <=> | 000 to 255 | Equivalent to VOF (Setting value: Factory adjustment value) |
| | | VOL RST P <=> | 000 to 255 | Equivalent to VRP (Setting value: Factory adjustment value) |
| | | VOL XPOFS1 <=> | 000 to 255 | Equivalent to VX1 (Setting value: Factory adjustment value) |
| | | VOL XPOFS2 <=> | 000 to 255 | Equivalent to VX2 (Setting value: Factory adjustment value) |
| | | VOL YNOFS1 <=> | 000 to 255 | Equivalent to VY1 (Setting value: Factory adjustment value) |
| | | VOL YNOFS3 <=> | 000 to 255 | Equivalent to VY3 (Setting value: Factory adjustment value) |
| | | VOL YNOFS4 <=> | 000 to 255 | Equivalent to VY4 (Setting value: Factory adjustment value) |
| | | RESET1ST_KSB <=> | 112 to 144 | Equivalent to R1K (Setting value: 125 fixed) |
| | | RESET2ND_KSB <=> | 112 to 144 | Equivalent to R2K (Setting value: 128 fixed) |
| | | YSTL_1SF_KSB <=> | 112 to 144 | Equivalent to Y1K (Setting value: 128 fixed) |
| | | YSTL_1SF_HZ <=> | 112 to 144 | Equivalent to Y1Z (Setting value: 128 fixed) |
| | | XSUS_1ST_B <=> | 112 to 144 | Equivalent to X1B (Setting value: 128 fixed) |
| | | YSUS_2ND_B <=> | 112 to 144 | Equivalent to Y2B (Setting value: 128 fixed) |
| | | XSUS_3RD_B <=> | 112 to 144 | Equivalent to X3B (Setting value: 128 fixed) |
| | | YSUS_B <=> | 112 to 144 | Equivalent to YSB (Setting value: 128 fixed) |
| | | XSUS_B <=> | 112 to 144 | Equivalent to XSB (Setting value: 128 fixed) |
| | | YSTL_KSB <=> | 112 to 144 | Equivalent to YTK (Setting value: 128 fixed) |
| | | YSTL_HZ <=> | 112 to 144 | Equivalent to YTZ (Setting value: 128 fixed) |
| | | YSTL_2SF_KSB <=> | 112 to 144 | Equivalent to Y2K (Setting value: 128 fixed) |
| | | YSTL_2SF_HZ <=> | 112 to 144 | Equivalent to Y2Z (Setting value: 128 fixed) |
| | | YSTL_FMR_KSB <=> | 112 to 144 | Equivalent to YNK (Setting value: 128 fixed) |
| | | YSTL_FMR_HZ <=> | 112 to 144 | Equivalent to YNZ (Setting value: 128 fixed) |
| | | SUS FREQ. <=> | MODE 1 to MODE 8 | Equivalent to SFR (Setting value: MODE1) |
| | 6.2.2.6 PANEL-2 ADJ (+) | R-HIGH <=> | 000 to 511 | Equivalent to PRH (Setting value: Factory adjustment value) |
| | | G-HIGH <=> | 000 to 511 | Equivalent to PGH (Setting value: Factory adjustment value) |
| | | B-HIGH <=> | 000 to 511 | Equivalent to PBH (Setting value: Factory adjustment value) |
| | | R-LOW <=> | 000 to 999 | Equivalent to PRL (Setting value: 512 fixed) |
| | | G-LOW <=> | 000 to 999 | Equivalent to PGL (Setting value: 512 fixed) |
| | | B-LOW <=> | 000 to 999 | Equivalent to PBL (Setting value: 512 fixed) |
| | | ABL <=> | 000 to 255 | Equivalent to ABL (Setting value: Factory adjustment value) |
| | 6.2.2.7 PANEL FUNCTION (+) | R-LEVEL <=> | LV-0 to LV-7 | Equivalent to RRL (Setting value: Lv-2) |
| | | G-LEVEL <=> | LV-0 to LV-7 | Equivalent to RGL (Setting value: Lv-1) |
| | | B-LEVEL <=> | LV-0 to LV-7 | Equivalent to RBL (Setting value: Lv-0) |
| | | ADDRESS L1 <=> | PH0 to PH9 | Equivalent to AP0S*- (Setting value: PH1) |
| | | ADDRESS L2 <=> | PH0 to PH9 | Equivalent to AP0S-* (Setting value: PH2) |
| | | ADDRESS L3 <=> | PH0 to PH9 | Equivalent to AP1S*- (Setting value: PH0) |
| | | ADDRESS L4 <=> | PH0 to PH9 | Equivalent to AP1S-* (Setting value: PH1) |
| | | ADDRESS U1 <=> | PH0 to PH9 | Equivalent to AP2S*- (Setting value: PH0) |
| | | ADDRESS U2 <=> | PH0 to PH9 | Equivalent to AP2S-* (Setting value: PH0) |
| | | ADDRESS U3 <=> | PH0 to PH9 | Equivalent to AP3S*- (Setting value: PH0) |
| | | ADDRESS U4 <=> | PH0 to PH9 | Equivalent to AP3S-* (Setting value: PH0) |
| | | STK MODE <=> | OFF <=> MODE1 to MODE8 <=> | Equivalent to SMK (Setting value: MODE1) |
| | 6.2.2.8 ETC. (+) | BACKUP DATA <=> | NO OPRT <=> TRANSFER or ERR | Equivalent to BCP |
| | | DIGITAL EEPROM <=> | NO OPRT <=> DELETE/REPAIR | Equivalent to FAJ/UAJ |
| | | PD INFO. <=> | NO OPRT <=> CLEAR | Equivalent to CPD |
| | | SD INFO. <=> | NO OPRT <=> CLEAR | Equivalent to CSD |
| | | HR-MTR INFO. <=> | NO OPRT <=> CLEAR | Equivalent to CHM |
| | | PM/B1-B5 <=> | NO OPRT <=> CLEAR | Equivalent to CPM |
| | | P COUNT INFO. <=> | NO OPRT <=> CLEAR | Equivalent to CPC |
| | | MAX TEMP. <=> | NO OPRT <=> CLEAR | Equivalent to CMT |
| | 6.2.2.9 RASTER MASK SETUP (+) | MASK OFF | <=> 48V <=> 50V <=> 60V <=> 60P <=> 72V <=> 75V <=> | Equivalent to MKS+S00 |
| | | RST MASK 01 <=> | | Equivalent to MKS+S51 |
| | | • • • | | • • • |
| | | RST MASK 25 <=> | | Equivalent to MKS+S75 |

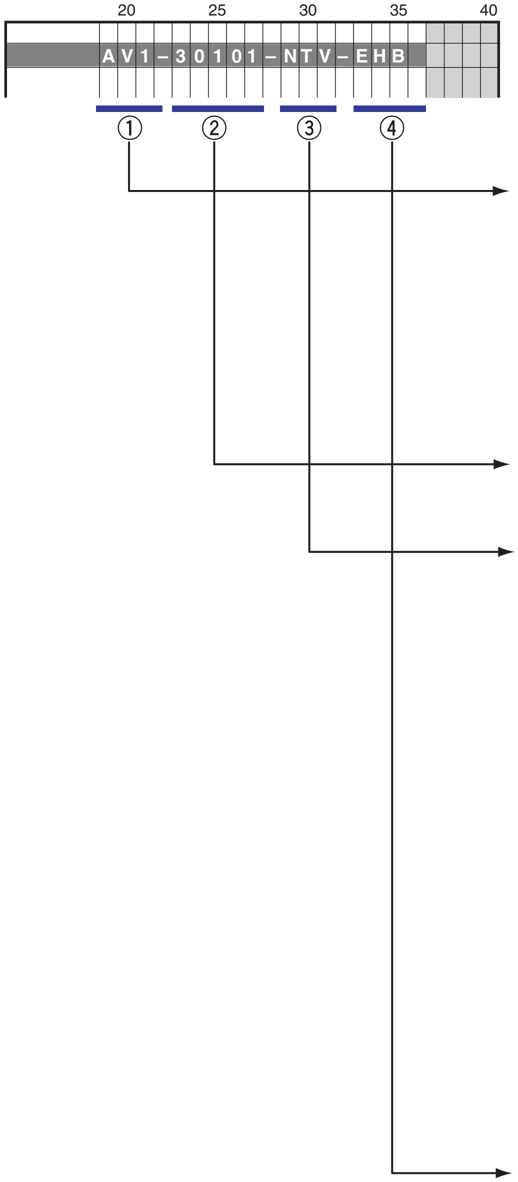
*: Setting value

| **Large Item** | **Middle Item** | **Small Item** | **Variable / Adjustment Range** | **Remarks** |
|---|---|---|---|---|
| **6.2.2 PANEL FACTORY (+)** | | | | |
| | 6.2.2.10 PATTERN MASK SETUP (+) | MASK OFF | <=> 48V <=> 50V <=> 60V <=> 60P <=> 72V <=> 75V <=> | Equivalent to MKS+S00 |
| | | PTN MASK 01 <=> | | Equivalent to MKS+S01 |
| | | • • • | | • • • |
| | | PTN MASK 49 <=> | | Equivalent to MKS+S49 |
| | 6.2.2.11 COMBI MASK SETUP (+) | MASK OFF | <=> 48V <=> 50V <=> 60V <=> 60P <=> 72V <=> 75V <=> | Equivalent to MKC+S00 |
| | | CMB MASK 01 <=> | | Equivalent to MKC+S01 |
| | | • • • | | • • • |
| | | CMB MASK 17 <=> | | Equivalent to MKC+S17 |
| **6.2.3 OPTION** | | | | |
| | 6.2.3.1 EDID WRITE MODE <=> | | DISABLE <=> ENABLE | Exclusively used for production line |
| | 6.2.3.2 CH PRESET <=> | | USER <=> FACTORY | |
| | 6.2.3.3 SYNC DET (+) | | | for the technical analysis |
| **6.2.4 INITIALIZE** | | | | |
| | 6.2.4.1 SIDE MASK LEVEL (+) | SIDE MASK LEVEL <=> | | |
| | 6.2.4.2 FINAL SETUP | DATA RESET <=> | NO <=> YES | |
| | 6.2.4.3 Wide XGA AUTO <=> | | DISABLE <=> ENABLE | Exclusively used for technical analysis (details omitted) |

## 6.1.7 INDICATIONS IN SERVICE FACTORY MODE


1
5
10
15
20
25
30
35
40
1
5
10
15
16
INFORMATION AV1–30101–NTV–EHB
VERSION(1)
I/F –07A 01A
MAIN –02E2 01E
MULTI PRS –02E 01A
PIC –02E
MODULE –06A 01A
SEQ PRS –03W_A 01A
PANEL INFO XXXXXXXX
Main-items
Subtitled-items

## ■ Main-item indications


20
25
30
35
40
AV1–30101–NTV–EHB
①
②
③
④

### ① Input function

| Input Functions | OSD |
|---|---|
| AV 1 to 5 | AV 1 to 5 |
| Terrestrial Analog Wave | AIR |
| Terrestrial Digital Wave (excepting Regular A model) | ARD |
| Cable | CBL |
| Home Gallery (Step-up D model only) | HG |
| PC | PC |

### ② SIG mode and Screen size

Note: See SIG-Mode Tables. (See next page.)

### ③ Color system and Signal type

| Color System and Signal Type | OSD | |
|---|---|---|
| | At Composite Input | At S-connector Input |
| NTSC | NTV | NTS |
| PAL | PLV | PLS |
| PAL M | PMV | PMS |
| PAL N | PNV | PNS |
| PAL 60 | P6V | P6S |
| SECAM | SCV | SCS |
| 4.43 NTSC | 4NV | 4NS |
| BLACK/WHITE | BWV | BWS |
| Y/CB/CR | CBR | |
| Y/PB/PR | PBR | |
| RGB | RGB | |
| Digital Video signal | DIG | |

### ④ Option (Destination, Panel Generation, etc.)

| Options | OSD |
|---|---|
| Step-up D model | EHB |
| Regular D model | ESB |
| Regular A model | ERB |

## ② SIG Mode and Screen size (by User is displayed)

**1st and 2nd characters** : Resolution of the input signal
**3rd and 4th characters** : Refresh rate of the input signal
**5th character** : Selection of the screen size

### ■ Input signal mode table for video signals (resolutions and V frequencies)

| 1st to 4th Character | | Signal Type | Fv (Hz) | Fh (kHz) |
|---|---|---|---|---|
| 10 | 50 | SDTV*625i | 50.000 | 15.750 |
| | 60 | SDTV*525i | 60.000 | 15.750 |
| 20 | 50 | SDTV*625p | 50.000 | 31.500 |
| | 60 | SDTV*525p | 60.000 | 31.500 |
| 30 | 50 | HDTV*1125i | 50.000 | 33.750 |
| | 60 | HDTV*1125i | 60.000 | 33.750 |
| 40 | 50 | HDTV*750p | 50.000 | 45.000 |
| | 60 | HDTV*750p | 60.000 | 45.000 |
| 50 | 24 | HDTV*1125p | 24.000 | 27.000 |
| | 50 | HDTV*1125p | 50.000 | 56.250 |
| | 60 | HDTV*1125p | 60.000 | 67.500 |

Fv: Vertical Frequency, Fh: Horizontal Frequency

### ■ Input signal mode table for PC signals (resolutions and V frequencies)

| 1st to 4th Character | | Signal Type | Fv (Hz) | Fh (kHz) |
|---|---|---|---|---|
| C1 | 70 | 720 x 400 | 70.087 | 31.469 |
| C2 | 60 | 640 x 480 | 59.940 | 31.469 |
| C4 | 60 | 800 x 600 | 60.317 | 37.879 |
| C6 | 60 | 1280 x 720 | 60.000 | 44.800 |
| C7 | 60 | 1024 x 768 | 60.004 | 48.363 |
| C9 | 60 | 1360 x 768 | 60.015 | 47.712 |
| D6 | 60 | 1280 x 1024 | 60.000 | 64.000 |

Fv: Vertical Frequency, Fh: Horizontal Frequency

### ■ Current selection of the screen size

| 5th Character | GUI Notation | VIDEO | PC | Remarks |
|---|---|---|---|---|
| 0 | DOT BY DOT | ● (∗) | – | |
| 1 | 4:3 | ● | ● | |
| 2 | FULL | ● | ● | |
| 3 | ZOOM | ● | – | |
| 4 | CINEMA | ● | – | |
| 5 | WIDE | ● | – | |
| 6 | FULL 14:9 | ● | – | |
| 7 | CINEMA 14:9 | ● | – | |

●: supported, –: unsupported

(∗): It is effective only with models having the Full HD panel.

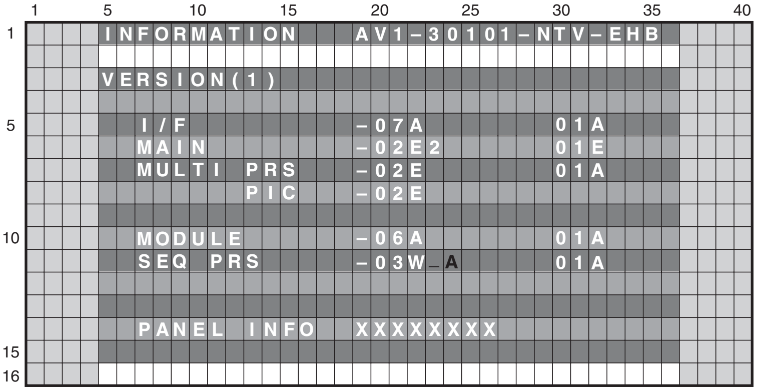
# 6.2 DETAILS OF FACTORY MENU

## 6.2.1 INFORMATION

**■ Operation items**

| No. | Function/Display | Context | RS-232C Command |
|---|---|---|---|
| 6.2.1.1 | VERSION (1) | The software versions for each microcomputer are displayed. (Common part) | QS1 |
| 6.2.1.2 | VERSION (2) | The Flash memory versions for each device are displayed. (Individual part) | QSE |
| 6.2.1.3 | MAIN NG | The Shutdown Message ID/Event Times in Main Microcomputer are displayed. | QNG |
| 6.2.1.4 | TEMPERATURE | The Temperature/FAN rotating status in Main Microcomputer are displayed. | QMT |
| 6.2.1.5 | HOUR METER | The HOUR METER/P-COUNT information are displayed. | QS3 |
| 6.2.1.6 | HDMI SIGNAL INFO 1 | The Information of HDMI information files are displayed. | – |
| 6.2.1.7 | HDMI SIGNAL INFO 2 | | |
| 6.2.1.8 | VDEC SIGNAL INFO 1 | Display the Signal Information on VDEC. | – |
| 6.2.1.9 | VDEC SIGNAL INFO 2 | | |

### 6.2.1.1 VERSION (1)



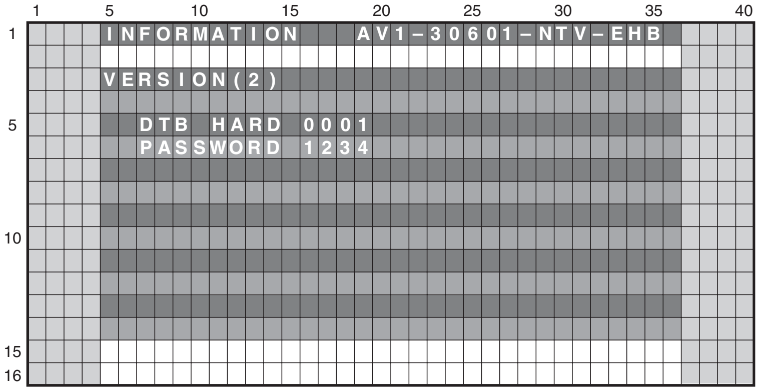
```
INFORMATION       AV1–30101–NTV–EHB

VERSION(1)

  I/F             –07A        01A
  MAIN            –02E2       01E
  MULTI PRS       –02E        01A
          PIC     –02E

  MODULE          –06A        01A
  SEQ PRS         –03W_A      01A


  PANEL INFO      XXXXXXXX
```

| Microcomputer | Item Name | Display Example (Execution program block) | Display Example (Boot block) |
|---|---|---|---|
| I/F microcomputer | I/F | -07A | 01A |
| Main microcomputer | MAIN | -02E2 | 01E |
| Multi processor | MULTI PRS | -02E | 01A |
| Multi processor | MULTI PIC | -02E | |
| Module microcomputer | MODULE | -06A | 01A |
| Sequence processor | SEQ PRS | -03W_A | 01A |

**Note:** In the 29-32 rows, the Boot version information on each device is displayed.
In the 19-24 rows, the version of the execution program is displayed.

- **PANEL INFO:** It displays the generation of the panel, inchage and the type of the panel. For details on display values and settings, see "10: Panel Information" in "9.3.1. QS1 (PANEL STATUS)."

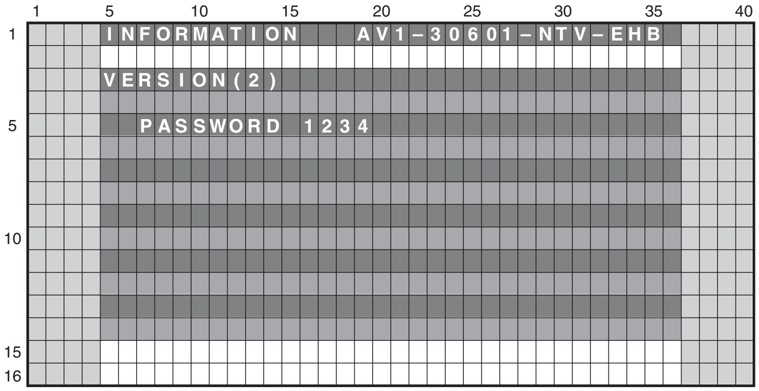
## 6.2.1.2 VERSION (2)


1
5
10
15
20
25
30
35
40
1
5
10
15
16

```
INFORMATION      AV1-30601-NTV-EHB

VERSION(2)

  DTB HARD  0001
  PASSWORD  1234
```

### Step-up D / Regular D

| Meaning | Item Name | Display Example |
|---|---|---|
| DTV Hardware Version | DTV HARD | 0001 |
| User Password | PASSWORD | 1234 |

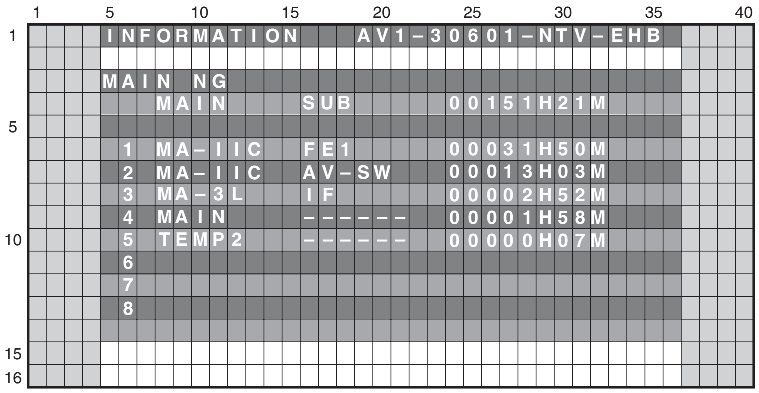

1
5
10
15
20
25
30
35
40
1
5
10
15
16

```
INFORMATION      AV1-30601-NTV-EHB

VERSION(2)

  PASSWORD  1234
```

### Regular A

| Meaning | Item Name | Display Example |
|---|---|---|
| User Password | PASSWORD | 1234 |

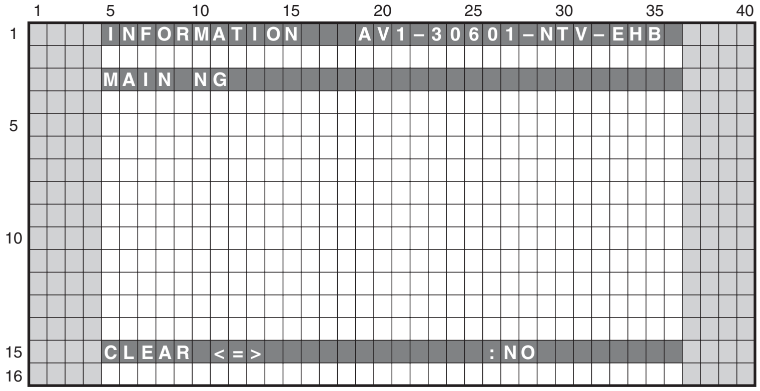
## 6.2.1.3 MAIN NG



```
INFORMATION   AV1-30601-NTV-EHB

MAIN  NG
  MAIN      SUB       00151H21M

 1 MA-IIC   FE1       00031H50M
 2 MA-IIC   AV-SW     00013H03M
 3 MA-3L    IF        00002H52M
 4 MAIN     ------    00001H58M
 5 TEMP2    ------    00000H07M
 6
 7
 8
```

### MTB side's Shutdown NG information

| OSD: MAIN | OSD: SUB | Cause of Shutdown |
|---|---|---|
| AUDIO | ---- | Short-circuit of the speaker terminal or failure of audio amplifier. |
| MODULE | ---- | Failure of communication to Module microcomputer. |
| MA-3L | | 3-wire Serial Communication of Main microcomputer. |
| | IF | Communication failure of IF microcomputer |
| | MULTI | Multi Processor communication failure |
| MA-IIC | | IIC Communication failure of Main microcomputer |
| | FE1 | Analog Tuner 1 |
| | MSPMAP | MSP/MAP |
| | AV-SW | AV Switch |
| | RGB-SW | RGB Switch |
| | VDEC | VDEC |
| | SDRAM | VDEC-SDRAM |
| | ADC | AD/PLL |
| | HDMI | HDMI |
| | DEMOD | COFDM error |
| MAIN | | Communication failure of Main microcomputer |
| FAN | FAN1 | Fan stopped |
| | FAN2 | Fan stopped (Only with models having the Full HD panel) |
| TEMP2 | | Abnormally high temperature at MTB. |
| DTUNER | | Failure of Digital Tuner |
| | PS/RST | Failure to DTV Starting |
| | D-ANT | Abnormally in the anntenna power supply of DTV tuner |
| RST-MA | M-DCDC | Abnormally in RST2 of MTB. (power decrease of DC-DC converter) |
| | RELAY | Relay Power Supply |
| MA-EEP | | IIC communication line between EEPROM and MAIN |


1
5
10
15
20
25
30
35
40
1
5
10
15
16

INFORMATION AV1–30601–NTV–EHB

MAIN NG

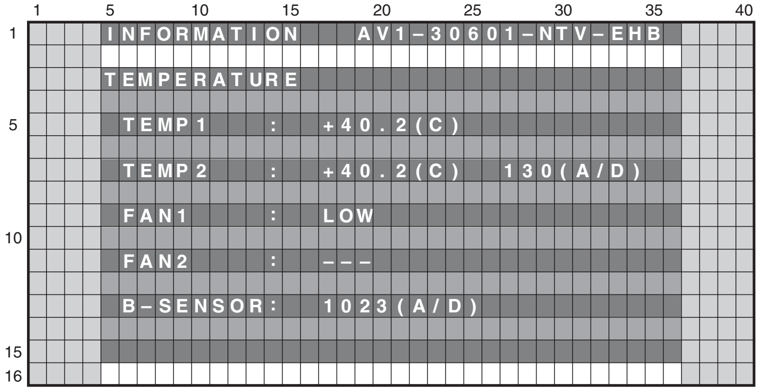
CLEAR <=> :NO

### Operation:

Even if [⬅] key or [➡] key is pressed, {CLEAR <=> :YES} ⇔ {CLEAR <=> :NO} is repeated.
If the [ENTER/SET] key is kept on pressing for 5 second when the status of this menu is <YES>, clear process will begin.

### 6.2.1.4 TEMPERATURE

A present temperature and the FAN rotation are displayed.
If either [⬅] key or [➡] key is pressed, the display data is refreshed.

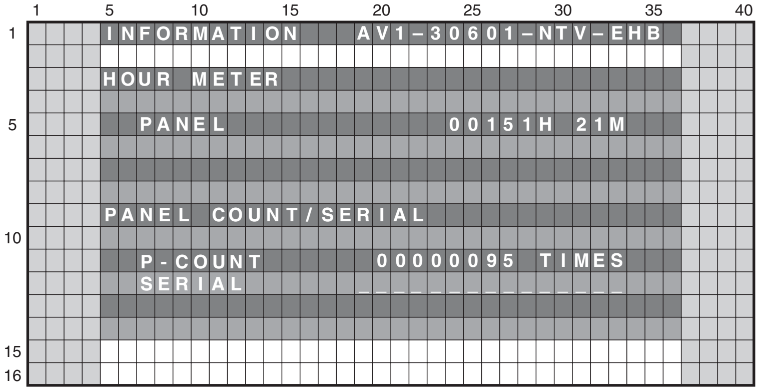


```
INFORMATION   AV1-30601-NTV-EHB

TEMPERATURE

 TEMP1   :  +40.2(C)

 TEMP2   :  +40.2(C)  130(A/D)

 FAN1    :  LOW

 FAN2    :  ---

 B-SENSOR:  1023(A/D)
```

**• Display/Meaning**

TEMP1 : The temperature of the sensor on the panel side is displayed by the centigrade.
TEMP2 : The temperature conversion display is done with 10 bit the A/D input value of IF uCOM 90 pin (AN4). It is displayed by both the centigrade (C) and 8 bit A/D value.
(Remark:When temperature (C) of the sensor becomes more than a specified temperature, the shutdown start of processing.)
FAN1 : The value of the FAN rotating state is displayed.
STOP: stopped, LOW: slow speed, HIGH: high speed.
FAN2 : The value of the rotation state of FAN is displayed.
During a rotation of FAN, 8bit D/A value output from 2 pin (DA0) of IF uCOM is displayed.
It is displayed with OFF during a stop (only for the FHD model).
B-SENSOR : The value that indicated the degree of brightness input into an Room light sensor is displayed.
AD value when the output of the Room light sensor was input into 89 pin (AN5) of IF uCOM is displayed.
However, the Regular A, D model is not displayed.

### 6.2.1.5 HOUR METER



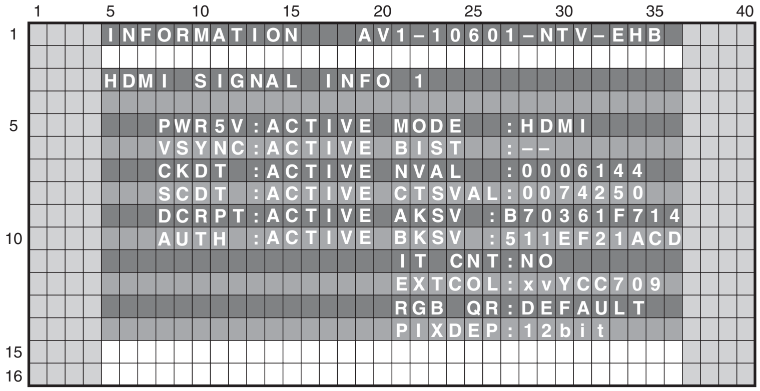
```
INFORMATION   AV1-30601-NTV-EHB

HOUR METER

  PANEL            00151H 21M



PANEL COUNT/SERIAL

  P-COUNT      00000095 TIMES
  SERIAL       _______________
```

**• Display/Meaning**

| Meaning | Item Name | Display Example | Corresponding RS-232C Command |
|---|---|---|---|
| HOUR METER (PANEL) | PANEL | 00151H 21M | QS3 |
| POWER ON COUNTER | P-COUNT | 00000095 TIMES | QS3 |
| SYSTEM SERIAL | SERIAL | | QS3 |

**Note:** The PANEL-side's HOUR METER/P-COUNT acquires information from the PANEL-side.

## 6.2.1.6 HDMI SIGNAL INFO 1

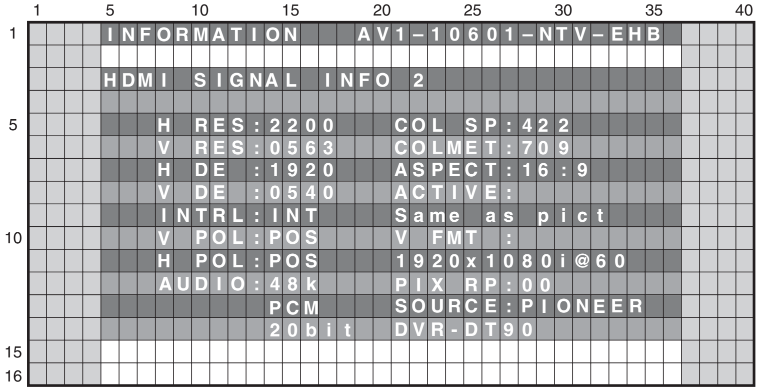


```
INFORMATION   AV1–10601–NTV–EHB

HDMI SIGNAL INFO 1

   PWR5V:ACTIVE MODE  :HDMI
   VSYNC:ACTIVE BIST  :––
   CKDT :ACTIVE NVAL  :0006144
   SCDT :ACTIVE CTSVAL:0074250
   DCRPT:ACTIVE AKSV :B70361F714
   AUTH :ACTIVE BKSV :511EF21ACD
                IT CNT:NO
                EXTCOL:xvYCC709
                RGB QR:DEFAULT
                PIXDEP:12bit
```

**Displays the input signal information of HDMI terminal**

| Item | Meaning |
|---|---|
| PWR5V | +5 V power detection (18 pin of HDMI terminal) |
| VSYNC | VSYNC detection |
| CKDT | Clock detection |
| SCDT | SYNC detection |
| DCRPT | HDCP decryption status |
| AUTHEN | HDCP authentication status |
| MODE | HDMI mode status |
| BIST | ---- |
| NVAL | N value |
| CTSVAL | CTS value |
| AKSV | Shadow AKSV value |
| BKSV | Shadow BKSV value |
| IT CNT | IT content (AVI info) |
| EXTCOL | Extension calorimetry (AVI info) |
| RGV QR | RGB range (AVI info) |
| PIXDEP | Number of pixel/bit |

## 6.2.1.7 HDMI SIGNAL INFO 2



```
INFORMATION     AV1-10601-NTV-EHB

HDMI SIGNAL INFO 2

   H RES:2200     COL SP:422
   V RES:0563     COLMET:709
   H DE :1920     ASPECT:16:9
   V DE :0540     ACTIVE:
   INTRL:INT      Same as pict
   V POL:POS      V FMT :
   H POL:POS      1920x1080i@60
   AUDIO:48k      PIX RP:00
         PCM      SOURCE:PIONEER
         20bit    DVR-DT90
```

**Displays input signal status of HDMI terminal**

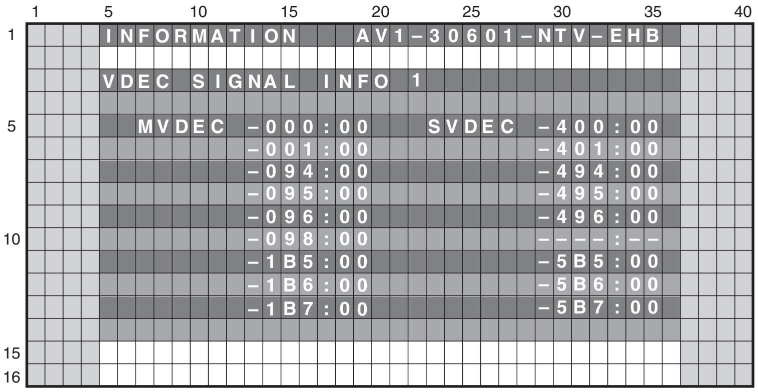
| Display Item | Meaning |
|---|---|
| H RES | Number of horizontal pixels (decimal) |
| V RES | Number of vertical lines (decimal) |
| H DE | Number of effectively horizontal pixels (decimal) |
| V DE | Number of effectively vertical lines (decimal) |
| INTRL | Interlace (=INT) or progressive (=PRG) |
| V POL | VSYNC polarity |
| H POL | HSYNC polarity |
| AUDIO (first line) | Sampling frequency. (ex. DVD: 48kHz, CD: 44.1kHz) *1 |
| AUDIO (second line) | PCM (PCM) or No PCM (=no PCM) |
| AUDIO (third line) | Quantization bit |
| COL SP | Color space (AVI Info) (422 or 444 or RGB) *2 |
| COLMET | Calorimetry (AVI Info) (SD: 601, HD:709) *2 |
| ASPECT | Aspect (AVI Info) |
| ACTIVE | Video active format (AVI Info) |
| V FMT | Video identification code (AVI Info) |
| PIX RP | Pixel repeat value for 2880 dot |
| SOURCE (first line) | Vendor name of the emission device |
| SOURCE (second line) | Model name of the emission device |

*1: Please confirm whether to be displayed here when the sound is not emitted.
*2: There is a possibility of not suitable for the state of the source equipment when the color is amusing.

**Display of HDMI FACTORY and correspondence of resolution**
Please confirm the following 5 items when the picture doesn't come out.

| Input Signal | FACTORY Display | | | | |
|---|---|---|---|---|---|
| | H RES | V RES | H DE | V DE | V FMT |
| 480i (525i) @ 60 | 858 | 262 or 263 | 720 | 240 | 720x480i @ 60 |
| 480p (525p) @ 60 | 858 | 525 | 720 | 480 | 720x480p @60 |
| 1080i (1125i) @ 60 | 2200 | 562 or 563 | 1920 | 540 | 1920x1080i @ 60 |
| 720p (750p) @ 60 | 1650 | 750 | 1280 | 720 | 1280x720p @ 60 |
| 1080p (1125p) @ 60 | 2200 | 1125 | 1920 | 1080 | 1920x1080p @ 60 |
| 576i (625i) @ 50 | 864 | 312 or 313 | 720 | 288 | 720x576i @50 |
| 576p (625p) @ 50 | 864 | 625 | 720 | 576 | 720x576p @ 50 |
| 1080i (1125i) @ 50 | 2640 | 562 or 563 | 1920 | 540 | 1920x1080i @ 50 |
| 720p (750p) @ 50 | 1980 | 750 | 1280 | 720 | 1280x720p @ 50 |
| 1080p (1125p) @ 50 | 2640 | 1125 | 1920 | 1080 | 1920x1080p @50 |
| 1080p (1125p) @ 24 | 2750 | 1125 | 1920 | 1080 | 1920x1080p @ 24 |

## 6.2.1.8 VDEC SIGNAL INFO 1



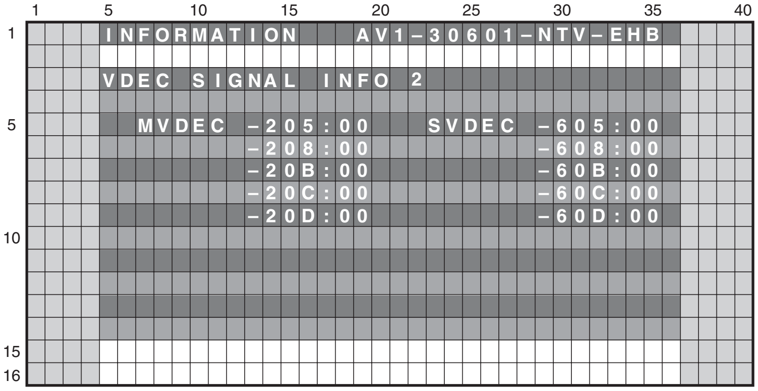
```
INFORMATION      AV1-30601-NTV-EHB

VDEC SIGNAL INFO 1

    MVDEC  -000:00      SVDEC  -400:00
           -001:00             -401:00
           -094:00             -494:00
           -095:00             -495:00
           -096:00             -496:00
           -098:00             ----:--
           -1B5:00             -5B5:00
           -1B6:00             -5B6:00
           -1B7:00             -5B7:00
```

**Displays signal status that is input to VDEC.**

| Device | Sub Address (Main screen) | Sub Address (Sub screen) | Meaning |
|---|---|---|---|
| VDEC | 000h | 400h | Line system distinction result |
| | 001h | 401h | VTR distinction result |
| | 094h | 494h | Slot number |
| | 095h | 495h | Color system distinction result |
| | 096h | 496h | ACC coefficient |
| | 098h | --- | 3D YC flag |
| | 1B5h | 5B5h | MV detection 1 |
| | 1B6h | 5B6h | MV detection 2 |
| | 1B7h | 5B7h | MV detection 3 |

**Note:** The SVDEC data display in the Regular A, D model, but the value is not settled because the multi-screen display function is not used.

## 6.2.1.9 VDEC SIGNAL INFO 2



```
INFORMATION      AV1-30601-NTV-EHB

VDEC SIGNAL INFO 2

    MVDEC  -205:00      SVDEC  -605:00
           -208:00             -608:00
           -20B:00             -60B:00
           -20C:00             -60C:00
           -20D:00             -60D:00
```

**Displays signal status that is input to VDEC.**

| Device | Sub Address (Main screen) | Sub Address (Sub screen) | Meaning |
|---|---|---|---|
| VDEC | 205h | 605h | CC detection 1 |
| | 208h | 608h | CC detection 2 |
| | 20Bh | 60Bh | CC-CRI detection |
| | 20Ch | 60Ch | XDS content advisor 0 |
| | 20Dh | 60Dh | XDS content advisor 1 |

**Note:** The SVDEC data display in the Regular A, D model, but the value is not settled because the multi-screen display function is not used.

## 6.2.2 PANEL FACTORY (+)

### ■ Operation Items

This is the menu screen for the adjustment of the panel. Data acquisition and value adjustment can be performed for the following items:

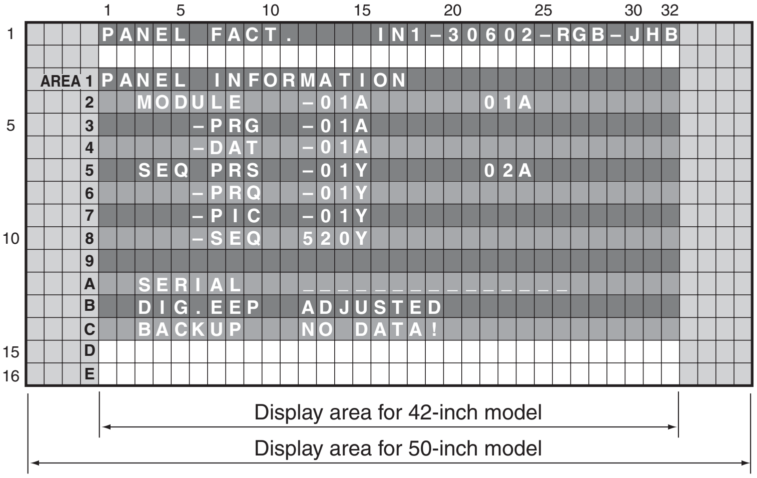
| No. | Indication | Description of functions |
|---|---|---|
| 6.2.2.1 | PANEL INFORMATION | Data, such as the version of the microcomputer of the panel, product serial number, and statuses of memories for adjustment values for the main unit and for backup, are displayed. |
| 6.2.2.2 | PANEL WORKS | Operation data, such as accumulated pulse-meter count, accumulated hour-meter count, accumulated power-on count, and the temperature detected by the sensor, are displayed. |
| 6.2.2.3 | POWER DOWN | The power-down history is displayed, with the hour-meter values that indicate the hour values when power-downs occurred. |
| 6.2.2.4 | SHUT DOWN | The shutdown history is displayed, with the hour-meter values that indicate the hour values when shutdowns occurred. |
| 6.2.2.5 | PANEL-1 ADJ (+) | Settings of the driving pulse timing and driving voltage can be performed. |
| 6.2.2.6 | PANEL-2 ADJ (+) | White balance and ABL (power consumption) for the panel can be set. |
| 6.2.2.7 | PANEL FUNCTION (+) | The level for correction of panel degradation can be set. |
| 6.2.2.8 | ETC. (+) | Copying of backup data and clearance of various data can be performed. |
| 6.2.2.9 | RASTER MASK SETUP (+) | The mask indication (RASTER) can be set and indicated. |
| 6.2.2.10 | PATTERN MASK SETUP (+) | The mask indication (PATTERN) can be set and indicated. |
| 6.2.2.11 | COMBI MASK SETUP (+) | The mask indication (COMBI) can be set and indicated. |

## Details of indications in each layer

- In the following examples, GUI images for a 50-inch model are indicated. Although the display areas for the menu for 42-inch and 50-inch models are different, the items to be displayed are the same.

### 6.2.2.1 PANEL INFORMATION

- Data, such as the version of the microcomputer of the panel, product serial number, and statuses of memories for adjustment values for the main unit and for backup, are displayed. No other layers are nested below this layer, and there are no adjustment items.



```
PANEL FACT.     IN1-30602-RGB-JHB

AREA 1 PANEL INFORMATION
     2   MODULE     -01A         01A
     3      -PRG    -01A
     4      -DAT    -01A
     5   SEQ PRS    -01Y         02A
     6      -PRQ    -01Y
     7      -PIC    -01Y
     8      -SEQ    520Y
     9
     A   SERIAL     _______________
     B   DIG.EEP    ADJUSTED
     C   BACKUP     NO DATA!
     D
     E
```

1
5
10
15
20
25
30
32
Display area for 42-inch model
Display area for 50-inch model

## Key operation

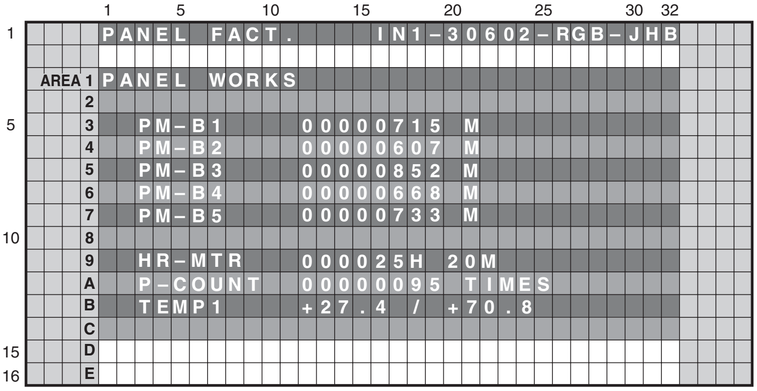
<DOWN> : Shifting to PANEL WORKS
<UP> : Shifting to COMBI MASK SETUP (+)
<L/R> : Updating displayed information

## Display items:

MODULE : The version of data written in the Module microcomputer (IC3151) is indicated.
-PRG : The program version of the Module microcomputer is indicated.
-DAT : The data version of the Module microcomputer is indicated.
SEQ-PRG : The version of data written in the Sequence LSI (IC3401) is indicated.
-PRG : The program version of the Sequence LSI is indicated.
-PIC : The Picture-data version of the Sequence LSI is indicated.
-SEQ : The sequence-data version of the Sequence LSI is indicated.
SERIAL : The serial number of the module is indicated.
DIG.EEP : The adjusted status of the EEPROM that is mounted on the DIGITAL Assy is indicated.
BACKUP : The adjusted status of the EEPROM for backup that is mounted on the SENSOR Assy is indicated.

### 6.2.2.2 PANEL WORKS

- Data on operations, such as the accumulated pulse-meter counts, hour-meter count, power-on count, and temperature detected by the sensor, are sent back. No other layers are nested below this layer, and there are no adjustment items.



```
PANEL FACT.     IN1-30602-RGB-JHB

AREA 1 PANEL WORKS
     2
     3   PM-B1      00000715 M
     4   PM-B2      00000607 M
     5   PM-B3      00000852 M
     6   PM-B4      00000668 M
     7   PM-B5      00000733 M
     8
     9   HR-MTR     00025H 20M
     A   P-COUNT    00000095 TIMES
     B   TEMP1      +27.4 / +70.8
     C
     D
     E
```

Temperature unit is " °C (Centigrade) ".

## Key operation

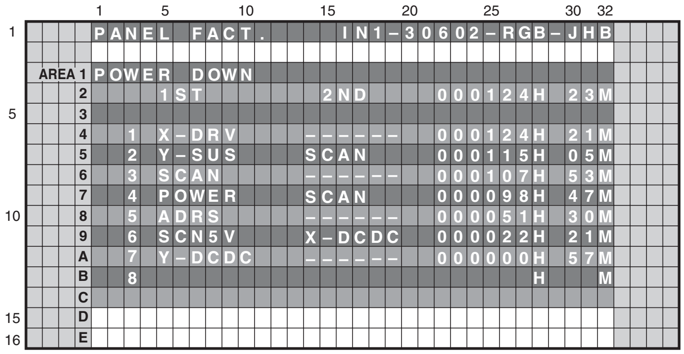
<DOWN> : Shifting to POWER DOWN
<UP> : Shifting to PANEL INFORMATION
<L/R> : Updating displayed information

## Contents of the Display item

- PM-B1 to B5: The accumulated pulse-meter counts for the 5 blocks on the screen are indicated. (the lowest-order digit represents millions of pulses.)
- HR-MTR: The hour-meter value (accumulated power-on hours) is indicated.
- P-COUNT: The accumulated power-on count is indicated.
- TEMP1: The current panel temperature and the historical maximum temperature recorded in memory are indicated. The range of temperature indication is from -50.0 to +99.9. (The temperature unit is " °C (Centigrade) ".)

### 6.2.2.3 POWER DOWN

- The power-down history is displayed. The last most 8 power-down histories are displayed with the hour-meter values that indicate the hours when power-downs occurred. No other layers are nested below this layer, and there are no adjustment items.



```
PANEL FACT.    IN1-30602-RGB-JHB

POWER DOWN
    1ST       2ND    000124H 23M

  1 X-DRV    ------  000124H 21M
  2 Y-SUS    SCAN    000115H 05M
  3 SCAN     ------  000107H 53M
  4 POWER    SCAN    000098H 47M
  5 ADRS     ------  000051H 30M
  6 SCN5V    X-DCDC  000022H 21M
  7 Y-DCDC   ------  000000H 57M
  8                        H   M
```

**■ Key operation**

<DOWN> : Shifting to SHUT DOWN
<UP> : Shifting to PANEL WORKS
<L/R> : Updating displayed information

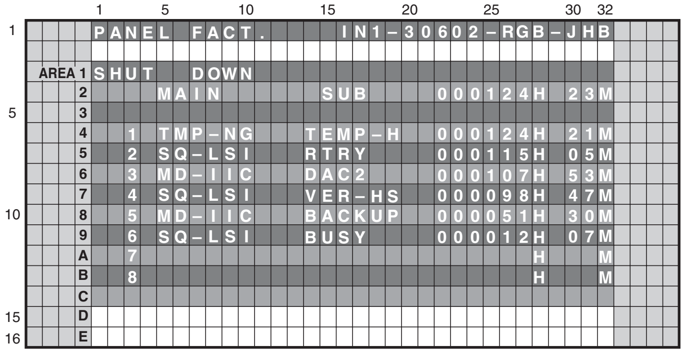
**<Causes of power-down and corresponding OSD indications>**

| Cause of power-down | OSD Indication | Cause of power-down | OSD Indication |
|---|---|---|---|
| POWER SUPPLY Unit | P-PWR | ADDRESS Assy | ADRS |
| SCAN Assy | SCAN | X DRIVE Assy | X-DRV |
| 5 V power for SCAN Assy | SCN5V | DC/DC converter for X drive | X-DCDC |
| Y DRIVE Assy | Y-DRV | X-drive SUS circuit | X-SUS |
| DC/DC converter for Y drive | Y-DCDC | Unknown | UNKNOW |
| Y-drive SUS circuit | Y-SUS | | |

* When power-down is confirmed, the factor is displayed as "1st", "2nd", according to the accuracy order.
* The power-down history is not recorded when the power-down occurred at the same place and same time.

### 6.2.2.4 SHUT DOWN

- The shutdown history is displayed. The last most 8 shutdown histories are displayed with the hour-meter values that indicate the hours when shutdowns occurred. No other layers are nested below this layer, and there are no adjustment items.



```
PANEL FACT.    IN1-30602-RGB-JHB

SHUT  DOWN
    MAIN      SUB    000124H 23M

  1 TMP-NG   TEMP-H  000124H 21M
  2 SQ-LSI   RTRY    000115H 05M
  3 MD-IIC   DAC2    000107H 53M
  4 SQ-LSI   VER-HS  000098H 47M
  5 MD-IIC   BACKUP  000051H 30M
  6 SQ-LSI   BUSY    000012H 07M
  7                        H   M
  8                        H   M
```

**■ Key operation**

<DOWN> : Shifting to PANEL-1 ADJ (+)
<UP> : Shifting to POWER DOWN
<L/R> : Updating displayed information

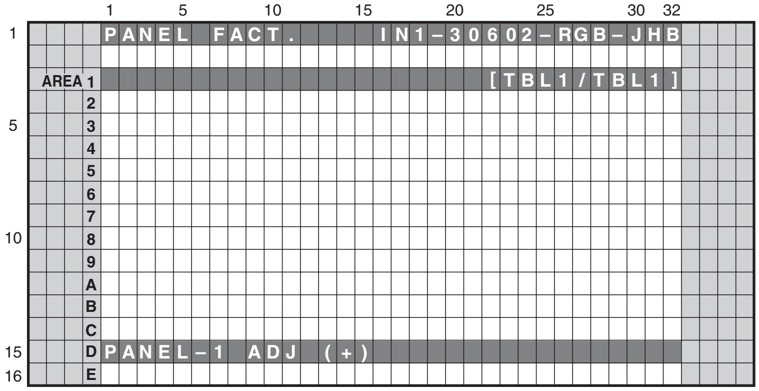
* When there is detail information when shutdown occurred, the possible defective part is displayed as Sub information.

**<Cause of shut-down and corresponding OSD Indication >**

| Cause of shut-down (MAIN) | | Cause of shut-down (SUB) | |
|---|---|---|---|
| Item | OSD Indication | Item | OSD Indication |
| Drive Processing IC | SQ_LSI | Communication Error | RTRY |
| | | Drive Stop | SQNO |
| | | Communication Busy | BUSY |
| | | Version mismatching (H/S) | VER-HS |
| | | Version mismatching (M/S) | VER-MS |
| MDU-IIC | MD-IIC | MAIN EEPROM Communication Error | EEPROM |
| | | BACKUP EEPROM Communication Error | BACKUP |
| | | DAC1 Communication Error | DAC1 |
| | | DAC2 Communication Error | DAC2 |
| Abnormally in RST2 power supply | RST2 | – | – |
| Panel temperature | TMP-NG | High temperature of the panel | TEMP-H |
| | | Low temperature of the panel | TEMP-L |

### 6.2.2.5 PANEL-1 ADJ (+)

- Timing and voltage for the driving pulse are set. At third line of the screen, the WB (White Balance) table and frequency table indicating operation status are displayed, and at fifteenth line of the screen, the item for the upper nested layer (PANEL-1 ADJ [+]) is displayed. Pressing the SET key shifts the screen to the next nested layer below for item selection.

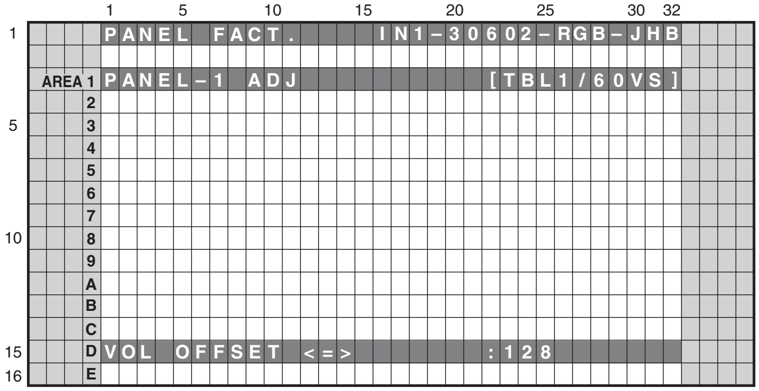


```
PANEL FACT.      IN1-30602-RGB-JHB

AREA 1                     [TBL1/TBL1]
D PANEL-1 ADJ (+)
```

**■ Key operation**

<DOWN> : Shifting to PANEL-2 ADJ (+)
<UP> : Shifting to POWER DOWN
<SET> : Shifting to the next nested layer

- When the screen is shifted to the next nested layer below, the item of the layer above is indicated at third line of the screen, and the item of the layer below is indicated at fifteenth line.
- The configuration of the menu screen is the same for any adjustment item that has lower layers.
- To confirm that the change in the SUS FREQ. setting has resulted in diminishing of AM radio interference in this layer, after changing the setting, turn the unit off then back on.



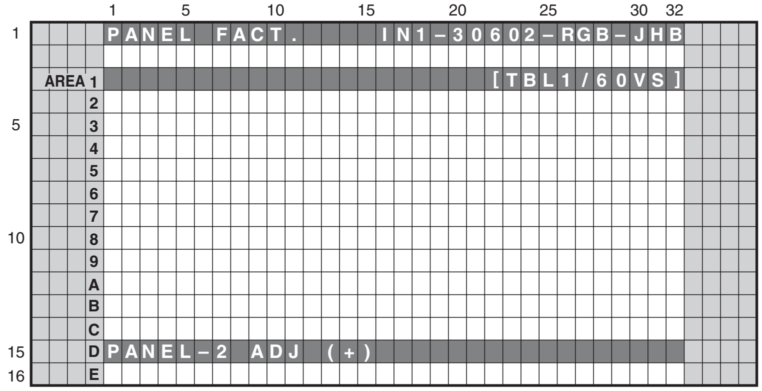
```
PANEL FACT.      IN1-30602-RGB-JHB

AREA 1 PANEL-1 ADJ         [TBL1/60VS]
D VOL OFFSET <=>         :128
```

**■ Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

### 6.2.2.6 PANEL-2 ADJ (+)

- White balance can be adjusted by adjusting R, G, and B gain. Pressing the SET key shifts the screen to the next nested layer below for item selection.



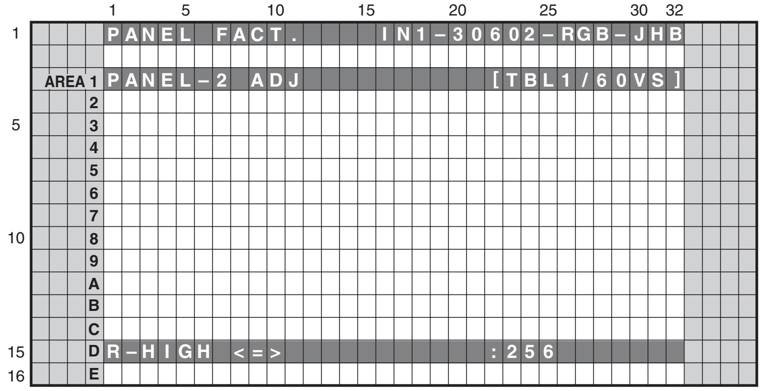
PANEL FACT. IN1–30602–RGB–JHB

[TBL1/60VS]

PANEL–2 ADJ (+)

**■ Key operation**

<DOWN> : Shifting to PANEL FUNCTION (+)
<UP> : Shifting to PANEL-1 ADJ (+)
<SET> : Shifting to the next nested layer



PANEL FACT. IN1–30602–RGB–JHB

PANEL–2 ADJ [TBL1/60VS]

R–HIGH <=> :256

**■ Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

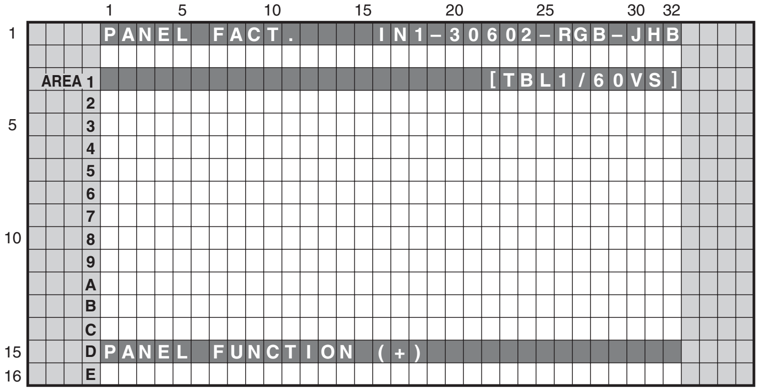
The ABL/WB adjustment values are grouped into up to four tables, depending on the drive sequences. The adjustment value for the actually driven table is displayed. The number of the adjustment table and the drive sequence currently selected are displayed on the right side of the third line as the On-Screen display.

**Drive sequence and adjustment table**

| **Sequence Name** | Video50 | Video60 | Video72 | Video75 | PC60 |
|---|---|---|---|---|---|
| **Adjustment Value Table** | TBL2 | TBL1 | TBL1 | TBL3 | TBL4 |

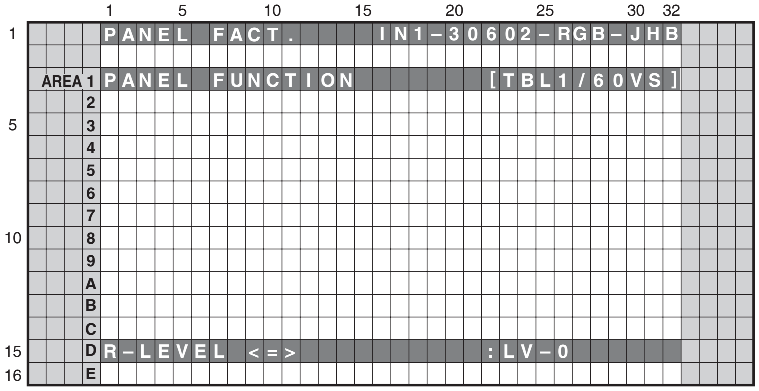
### 6.2.2.7 PANEL FUNCTION (+)

- A setting for panel degradation correction can be made. Pressing the SET key shifts the screen to the next nested layer below for item selection.


1 5 10 15 20 25 30 32
1
5
10
15
16
PANEL FACT. IN1–30602–RGB–JHB
AREA 1
[TBL1/60VS]
2
3
4
5
6
7
8
9
A
B
C
D PANEL FUNCTION (+)
E

**■ Key operation**

<DOWN> : Shifting to ETC.(+)
<UP> : Shifting to PANEL-2 ADJ (+)
<SET> : Shifting to the next nested layer

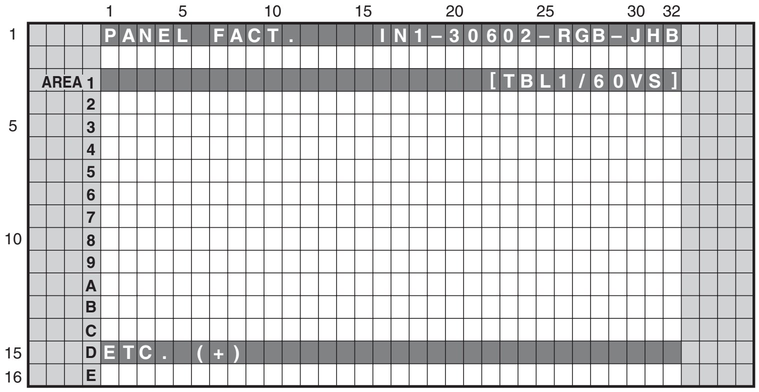

1 5 10 15 20 25 30 32
1
5
10
15
16
PANEL FACT. IN1–30602–RGB–JHB
AREA 1 PANEL FUNCTION [TBL1/60VS]
2
3
4
5
6
7
8
9
A
B
C
D R–LEVEL <=> :LV–0
E

**■ Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

### 6.2.2.8 ETC. (+)

- The setting about the backup of panel adjusting value and various data on panel operational information can be cleared. Pressing the SET key shifts the screen to the next nested layer below for item selection.


PANEL FACT. IN1-30602-RGB-JHB

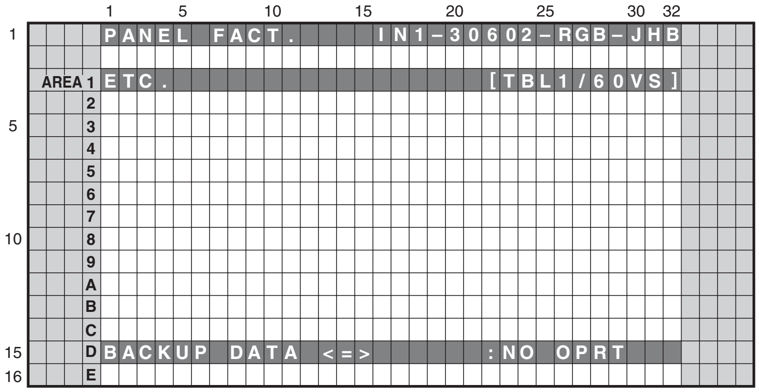
AREA 1 [TBL1/60VS]

D ETC. (+)

1
5
10
15
20
25
30
32
1
5
10
15
16
AREA
1
2
3
4
5
6
7
8
9
A
B
C
D
E

**■ Key operation**

<DOWN> : Shifting to RASTER MASK SETUP (+)
<UP> : Shifting to PANEL FUNCTION (+)
<SET> : Shifting to the next nested layer


PANEL FACT. IN1-30602-RGB-JHB

AREA 1 ETC. [TBL1/60VS]

D BACKUP DATA <=> :NO OPRT

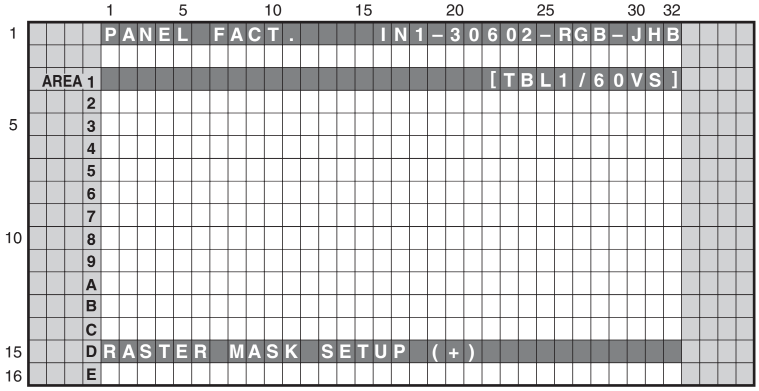
1
5
10
15
20
25
30
32
1
5
10
15
16
AREA
1
2
3
4
5
6
7
8
9
A
B
C
D
E

**■ Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

### 6.2.2.9 RASTER MASK SETUP (+)

- This menu set the RASTER MASK and the drive sequence at RASTER MASK state. Pressing the SET key shifts the screen to the next nested layer below for item selection.



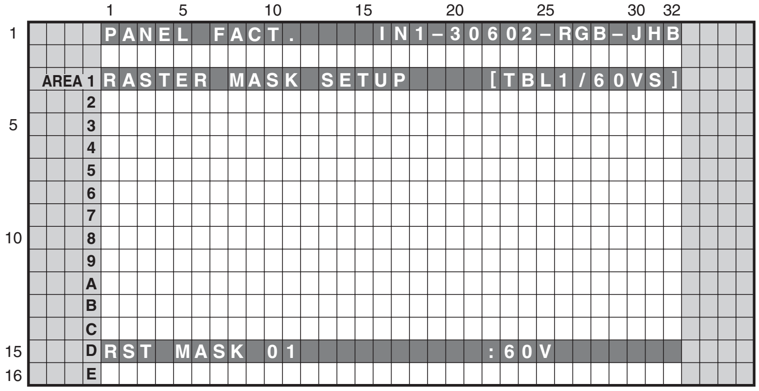
PANEL FACT. IN1-30602-RGB-JHB

AREA 1 [TBL1/60VS]

D RASTER MASK SETUP (+)

**■ Key operation**

<DOWN> : Shifting to PATTERN MASK SETUP (+)
<UP> : Shifting to ETC. (+)
<SET> : Shifting to the next nested layer



PANEL FACT. IN1-30602-RGB-JHB

AREA 1 RASTER MASK SETUP [TBL1/60VS]

D RST MASK 01 :60V

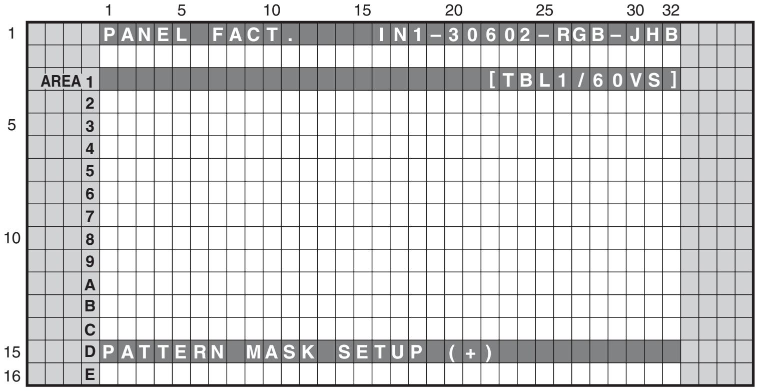
**■ Key operation**

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

- The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V and 60P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.

### 6.2.2.10 PATTERN MASK SETUP (+)

- This menu set the PATTERN MASK and the drive sequence at PATTERN MASK state. Pressing the SET key shifts the screen to the next nested layer below for item selection.


1
5
10
15
20
25
30
32
1
5
10
15
16
AREA
1
2
3
4
5
6
7
8
9
A
B
C
D
E

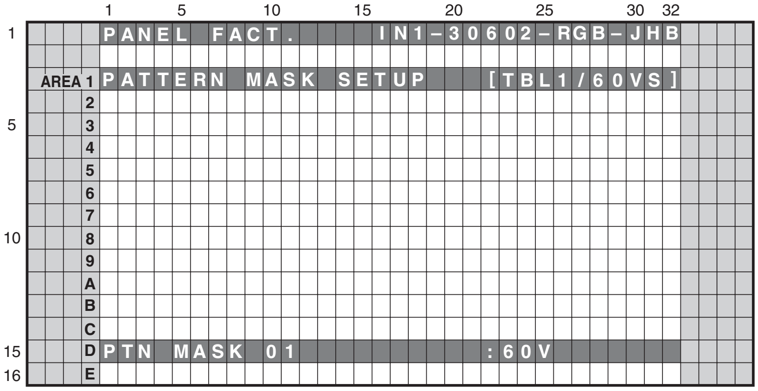
PANEL FACT. IN1-30602-RGB-JHB

[TBL1/60VS]

PATTERN MASK SETUP (+)

**■ Key operation**

<DOWN> : Shifting to COMBI MASK SETUP (+)
<UP> : Shifting to RASTER MASK SETUP (+)
<SET> : Shifting to the next nested layer


1
5
10
15
20
25
30
32
1
5
10
15
16
AREA
1
2
3
4
5
6
7
8
9
A
B
C
D
E

PANEL FACT. IN1-30602-RGB-JHB

PATTERN MASK SETUP [TBL1/60VS]

PTN MASK 01 :60V

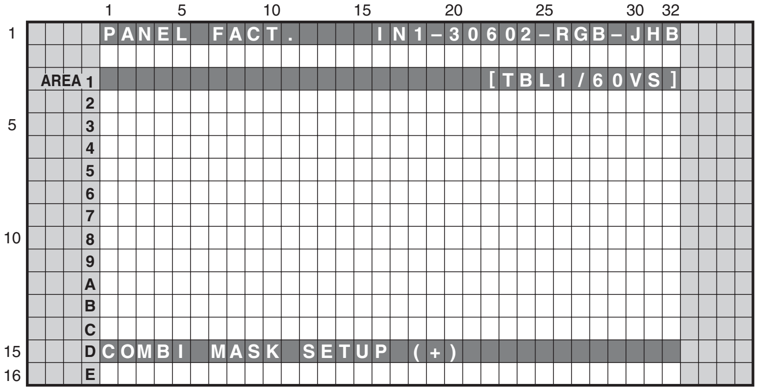
**■ Key operation**

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

- The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V and 60P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.

### 6.2.2.11 COMBI MASK SETUP (+)

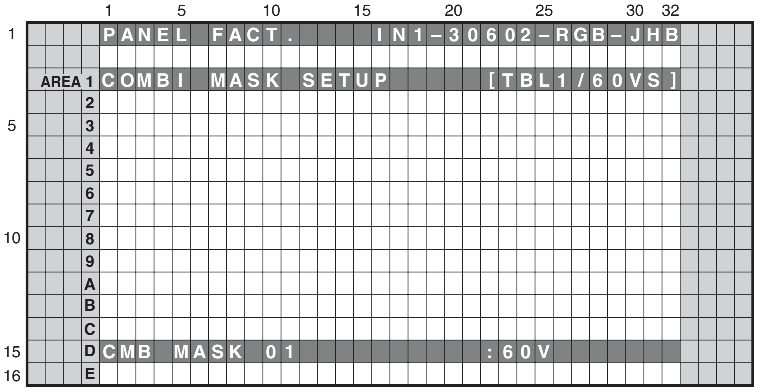
- This menu set the COMBI MASK and the drive sequence at COMBI MASK state. Pressing the SET key shifts the screen to the next nested layer below for item selection.


1
5
10
15
20
25
30
32
1
5
10
15
16
AREA
1
2
3
4
5
6
7
8
9
A
B
C
D
E

```
PANEL FACT.        IN1-30602-RGB-JHB
                         [TBL1/60VS]
COMBI MASK SETUP (+)
```

**■ Key operation**

<DOWN> : Shifting to PANEL INFORMATION
<UP> : Shifting to PATTERN MASK SETUP (+)
<SET> : Shifting to the next nested layer


1
5
10
15
20
25
30
32
1
5
10
15
16
AREA
1
2
3
4
5
6
7
8
9
A
B
C
D
E

```
PANEL FACT.        IN1-30602-RGB-JHB
COMBI MASK SETUP         [TBL1/60VS]
CMB MASK 01              :60V
```

**■ Key operation**

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

- The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V and 60P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.

## 6.2.3 OPTION

**Operation item**

| No. | Function | Content | RS-232C |
|---|---|---|---|
| 6.2.3.1 | EDID WRITE MODE ⇔ | DISABLE ⇔ ENABLE | --- |
| 6.2.3.2 | CH PRESET ⇔ | USER ⇔ FACTORY | --- |
| 6.2.3.3 | SYNC DET (+) | Exclusively used for technical analysis | --- |

### 6.2.3.1 EDID WRITE MODE <=>

Exclusively used for production line.

### 6.2.3.2 CH PRESET <=>

Exclusively used for production line.

### 6.2.3.3 SYNC DET (+)

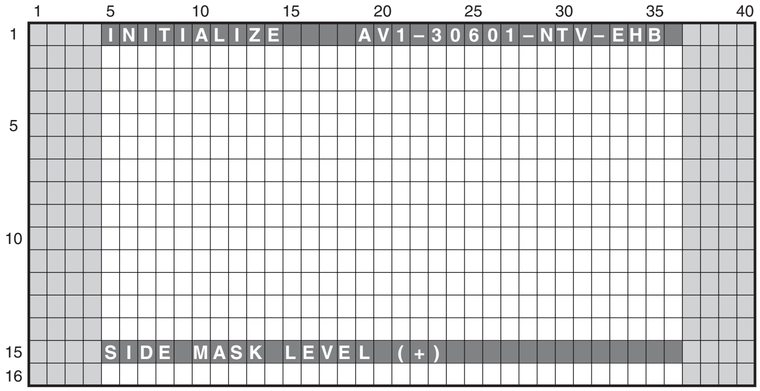
Exclusively used for technical analysis (details omitted).

## 6.2.4 INITIALIZE

**Operation item**

| No. | Function | Content | RS-232C |
|---|---|---|---|
| 6.2.4.1 | SIDE MASK LEVEL (+) | Configure the color of the side mask. | SML |
| 6.2.4.2 | FINAL SETUP (+) | Initialize flash memorys on virgin product status | FST |
| 6.2.4.3 | Wide XGA AUTO <=> | Exclusively used for technical analsyis. | ––– |

### 6.2.4.1 SIDE MASK LEVEL (+)



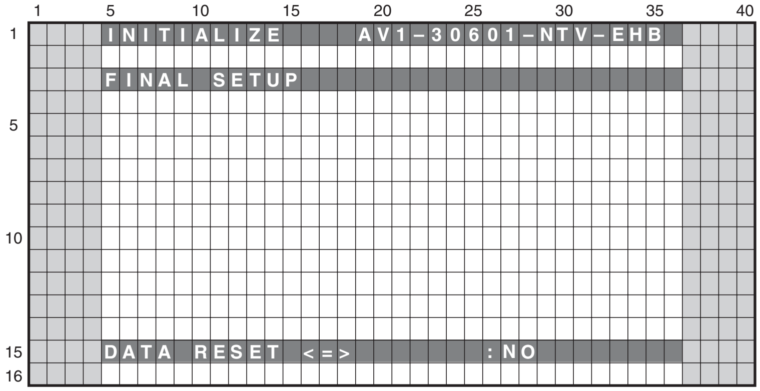
INITIALIZE AV1–30601–NTV–EHB

SIDE MASK LEVEL (+)

To configure sidemask level (To adjust the values, input signal is required).

| Display | Content | RS-232C |
|---|---|---|
| SIDE MASK LEVEL <=> | Adjust Side Mask level (Adjustable range: 000 to 255) | SML |

### 6.2.4.2 FINAL SETUP (+)



INITIALIZE AV1–30601–NTV–EHB

FINAL SETUP

DATA RESET <=> :NO

- To reset each memory values to factory default values. Factory command is "FST".
- When the configuration is set to <NO> and the [ENTER/SET] key is pressed, no action is taken and the menu returns to previous screen.
- When the configuration is set to <YES> and the [ENTER/SET] key is pressed for 5 seconds, the reset action executes.

**Be sure to disconnect and connect the AC cable after FINAL SETUP.**
**When replacing the MAIN Assy, the FINAL SETUP is required.**

### 6.2.4.3 Wide XGA AUTO <=>

Exclusively used for technical analsyis (details omitted).

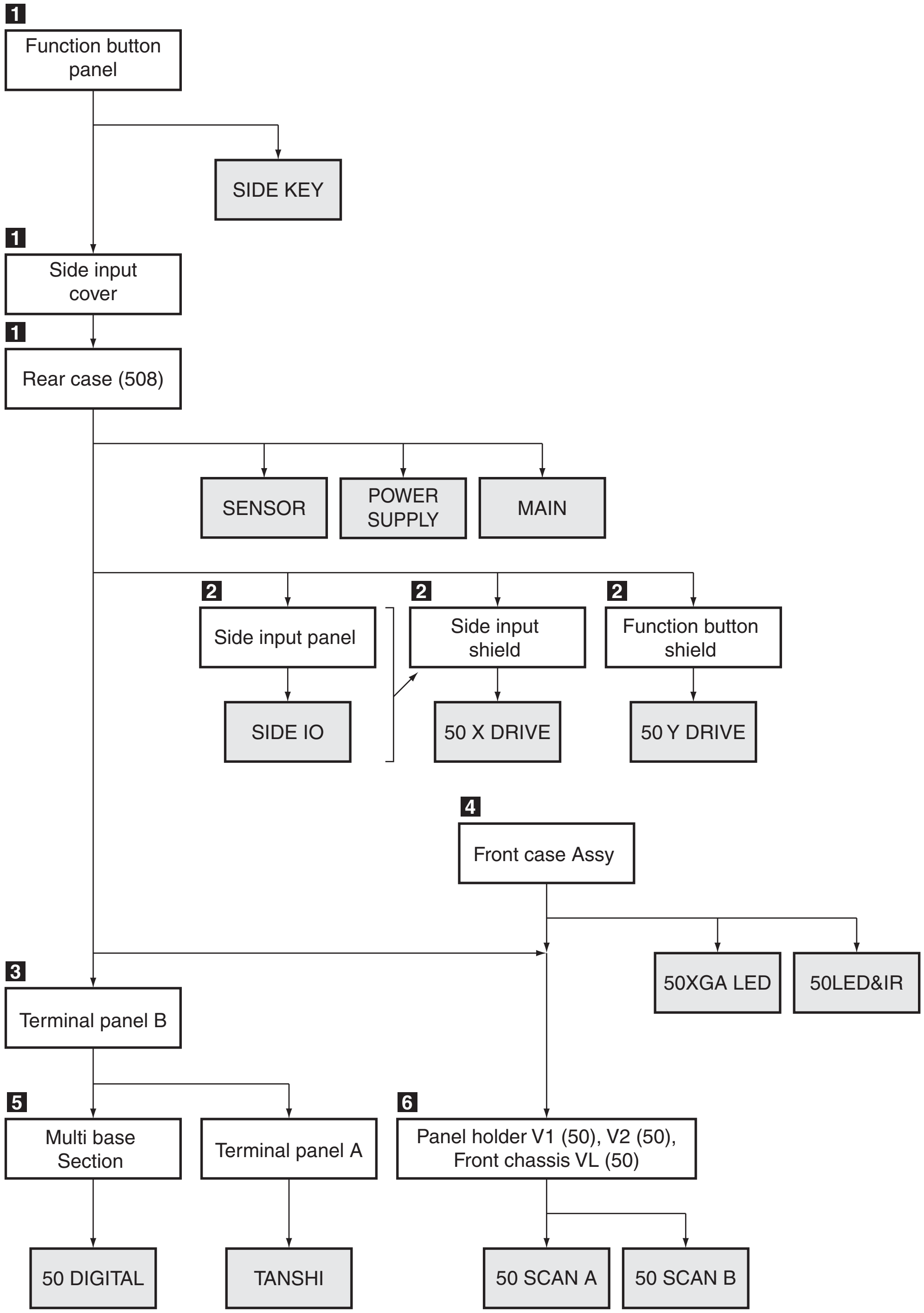
# 7. DISASSEMBLY

## 7.1 CHART OF REMOVAL ORDER FOR THE MAIN PARTS AND BOARDS

**Note:** Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

### Chart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:



1
Function button panel
SIDE KEY
1
Side input cover
1
Rear case (508)
SENSOR
POWER SUPPLY
MAIN
2
Side input panel
2
Side input shield
2
Function button shield
SIDE IO
50 X DRIVE
50 Y DRIVE
4
Front case Assy
50XGA LED
50LED&IR
3
Terminal panel B
5
Multi base Section
Terminal panel A
6
Panel holder V1 (50), V2 (50), Front chassis VL (50)
50 DIGITAL
TANSHI
50 SCAN A
50 SCAN B

# 7.2 DISASSEMBLY

## Disassembly

### 1 Rear Case (508)

**● Function button panel**

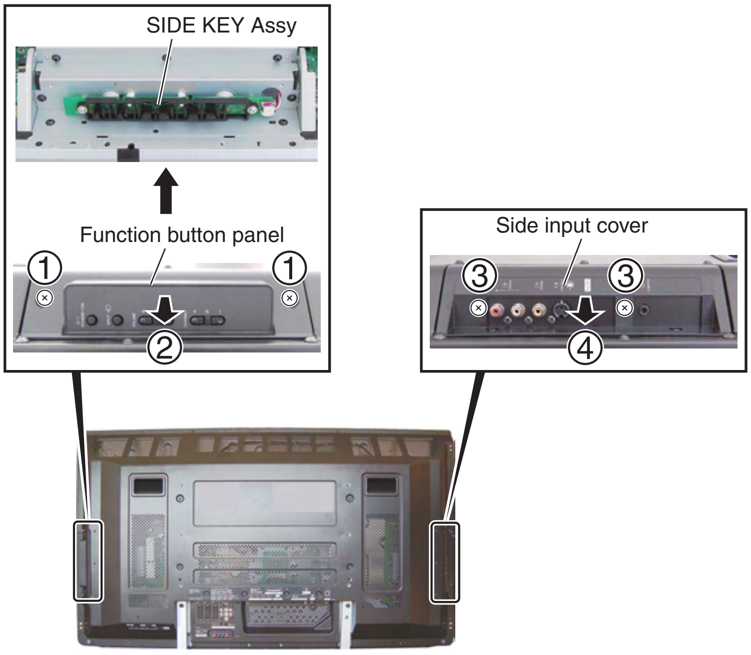
① Remove the two screws.

② Remove the function button panel.

**● Side input cover**

③ Remove the two screws.

④ Remove the side input cover.


SIDE KEY Assy
Function button panel
①
①
②
Side input cover
③
③
④

**● Rear case (508)**

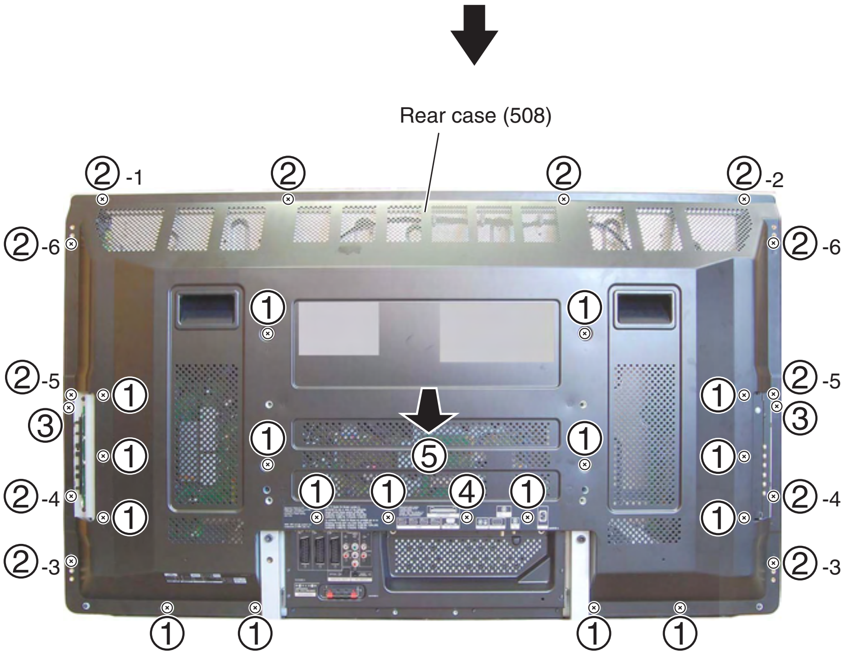
① Remove the 17 screws. (AMZ30P060FTB)

② Remove the 12 screws. (TBZ40P080FTB)

③ Remove the two screws. (ABA1332)

④ Remove the one screw. (ABA1341)

⑤ Remove the rear case (508).


Rear case (508)
②-1
②
②
②-2
②-6
②-6
①
①
②-5
②-5
③
③
①
①
①
①
①
①
⑤
①
①
④
①
②-4
②-4
①
①
②-3
②-3
①
①
①
①

**Tightening sequence for the screws when assembling**

When assembling the Rear Case (508), tighten the screws in the following sequence:

1. Tighten the screw (②-1).
2. Tighten the screw (②-2).
3. Tighten the eight screws in that order (②-3 to 6).
4. Tighten other screws.

## 2 Access to PCB Assys

**● SIDE IO Assy**

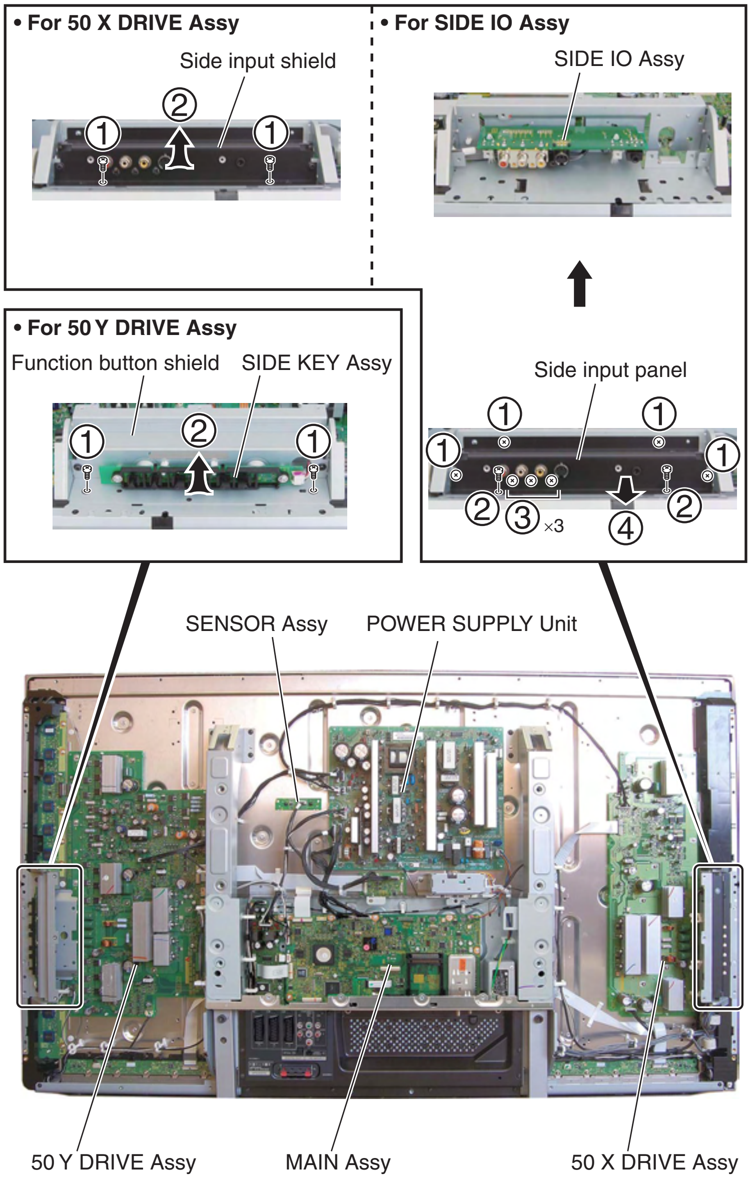
① Remove the four screws.
② Remove the two screws.
③ Remove the three screws.
④ Remove the side input panel.

**● 50 X DRIVE Assy**

① Remove the two screws.
② Remove the side input shield with PCB.
③ Diagnose the 50 X DRIVE Assy.

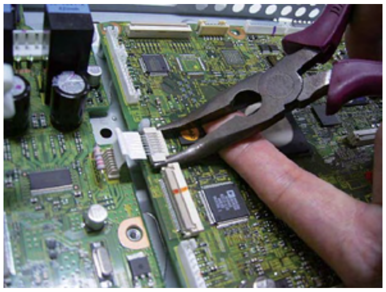
**● 50 Y DRIVE Assy**

① Remove the two screws.
② Remove the function button shield with PCB.
③ Diagnose the 50 Y DRIVE Assy.


• For 50 X DRIVE Assy
Side input shield
①
②
①
• For SIDE IO Assy
SIDE IO Assy
• For 50 Y DRIVE Assy
Function button shield
SIDE KEY Assy
①
②
①
Side input panel
①
①
①
①
②
③ ×3
④
②
SENSOR Assy
POWER SUPPLY Unit
50 Y DRIVE Assy
MAIN Assy
50 X DRIVE Assy

### ■ How to remove the bridge connector connecting between the MAIN and TANSHI Assys

(1) Grip the two short edges of the connector with longnose pliers.
(2) Insert a finger between the longnose pliers and the board to protect the board and the mounted parts on the board from accidental damage by the pliers then, using your finger as a fulcrum and the pliers as a lever, pry the connector upward to remove it.



## 3 Terminal Panel B

① Remove the 12 screws.

② Remove the two screws.

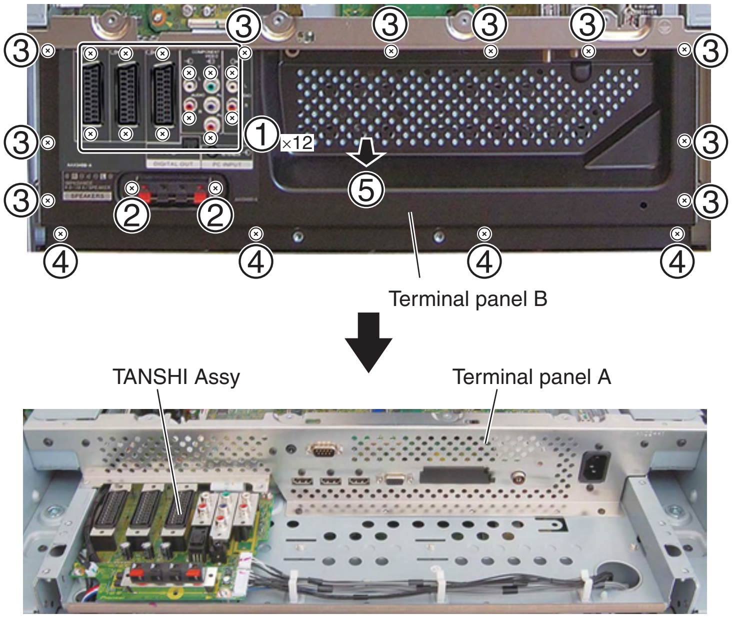
③ Remove the 10 screws.

④ Remove the four screws.

**Note:**
To remove the screws ④ with the unit attached to the side-speaker-type stand, remove the bolt for fixing the stand and lift the unit up a little.

⑤ Remove the terminal panel B.

**Note:**
**The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.**

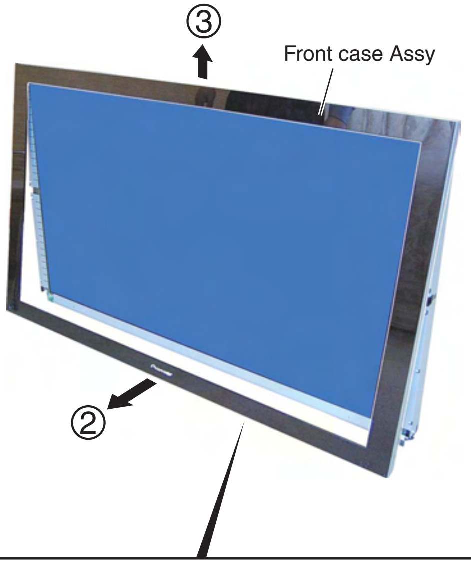

③
③
③
③
③
③
③
③
③
③
①
×12
⑤
②
②
④
④
④
④
Terminal panel B
TANSHI Assy
Terminal panel A

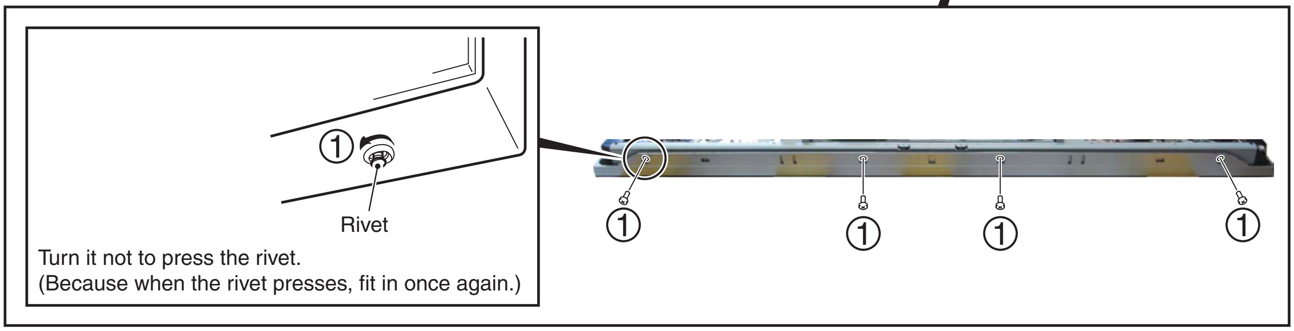
## 4 Front Case Assy

① Remove the four rivets.

② Pull the lower part of the Front case Assy toward you and out.

③ Remove the Front case Assy, by pulling it upward.


③
Front case Assy
②

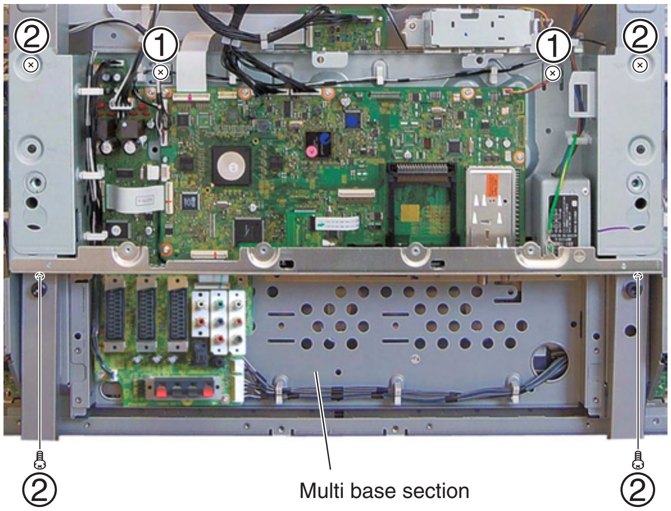

①
Rivet
①
①
①
①

Turn it not to press the rivet.
(Because when the rivet presses, fit in once again.)

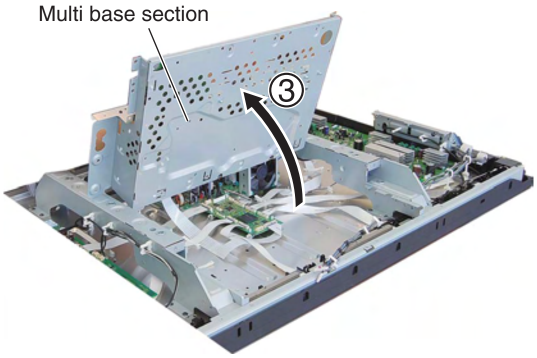
## 5 Access to 50 DIGITAL Assy

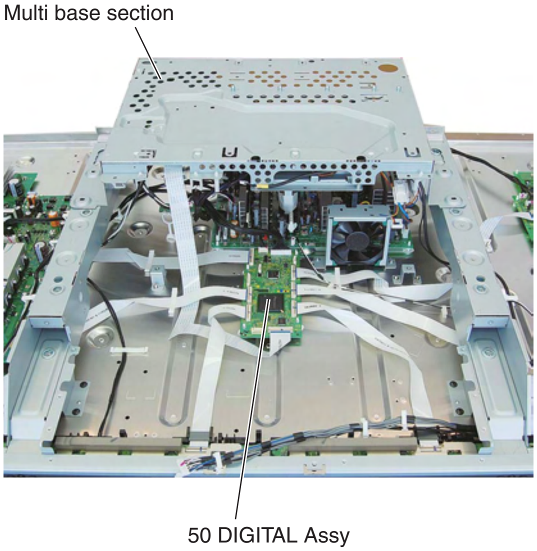
① Remove the two screws.

② Remove the four screws.


②
①
①
②
②
Multi base section
②

③ Lift the Multi base section to the direction of the arrow.


Multi base section
③


Multi base section
50 DIGITAL Assy

## 6 Exchange of SCAN IC

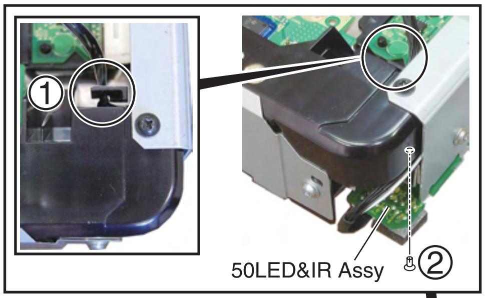
① Loosen the jumper wire.

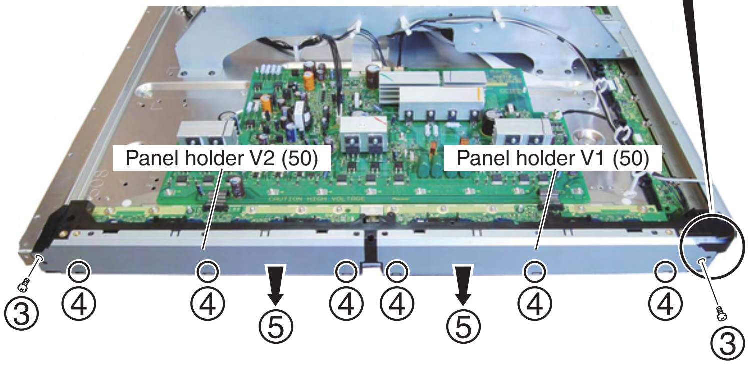
② Remove the 50LED&IR Assy by removing the one nyron rivet.

③ Remove the two screws.

④ Unhook the six hooks.

⑤ Remove the panel holders V1 (50) and V2 (50).

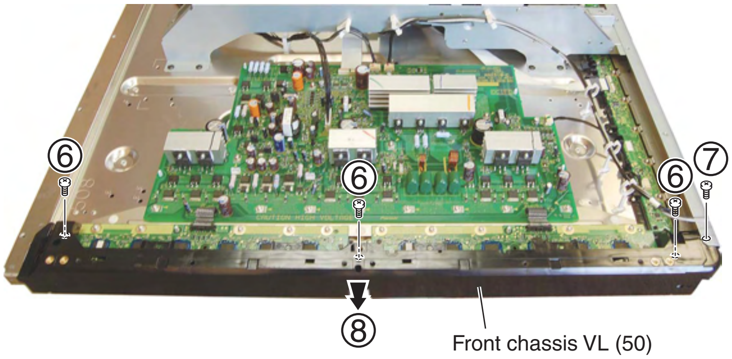

①
50LED&IR Assy
②


Panel holder V2 (50)
Panel holder V1 (50)
③
④
④
⑤
④
④
⑤
④
④
③

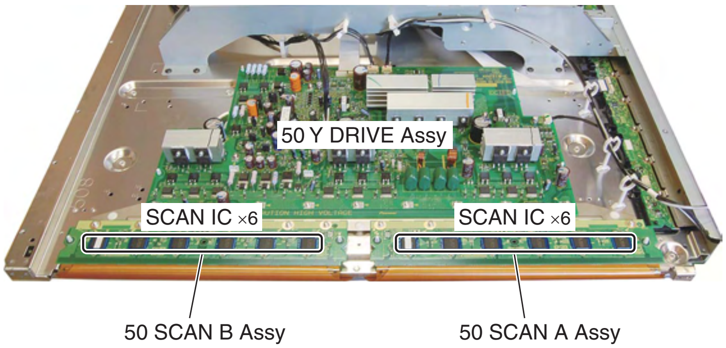
⑥ Remove the three screws.

⑦ Remove the one screw.

⑧ Remove the front chassis VL (50).


⑥
⑥
⑥
⑦
⑧
Front chassis VL (50)

**Exchange**


50 Y DRIVE Assy
SCAN IC ×6
SCAN IC ×6
50 SCAN B Assy
50 SCAN A Assy

# 8. EACH SETTING AND ADJUSTMENT

1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

## 8.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

### ■ When any of the following assemblies is replaced

| | | |
|---|---|---|
| POWER SUPPLY Unit | ➡ | Refer to “8.3 HOW TO CLEAR HISTORY DATA”. |
| DIGITAL Assy | ➡ | Writing of backup data is required.<br>Refer to the “8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)”. |
| X DRIVE Assy | ➡ | No adjustment required |
| Y DRIVE Assy | ➡ | No adjustment required |
| Service Panel Assy | ➡ | Refer to “8.3 HOW TO CLEAR HISTORY DATA” and “8.4 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED”. |
| MAIN Assy (∗) | ➡ | No adjustment required |
| SENSOR Assy | ➡ | Writing of backup data is required.<br>Refer to the “8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)”. |
| Other assemblies | ➡ | No adjustment required |

Note (∗): When replacing the MAIN Assy, be sure to perform the FINAL SETUP.

**Notes on replacing parts**

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.
If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

**Reason:** The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

| PCB Assy No. | Assy Name | Parts that Require Whole-Assy Replacement | | |
|---|---|---|---|---|
| | | Ref No. | Function Name | Part No. |
| AWV2461 (PDP-428XD and PDP-508XD)<br>AWV2462 (PDP-4280XD and PDP-5080XD)<br>AWV2463 (PDP-4280XA and PDP-5080XA) | MAIN Assy | IC4601 | AV switch | R2S11006FT |
| | | IC4701 | RGB switch | R2S11001FT |
| | | IC4703 | EEPROM | BR24L01AFJ-W |
| | | IC4801 | MAIN VDEC | CM0048BF |
| | | IC5001 | A/D Converter | AD9985KSTZ-110 |
| | | IC5102 | EEPROM | BR24L02FV-W |
| | | IC5103 | EEPROM | BR24L02FV-W |
| | | IC5203 | EEPROM | BR24L02FV-W |
| | | IC8204 | Flash ROM | AGC1050 |
| | | IC8301 | Flash UCOM | AGC1037 |
| | | IC8602 | Flash ROM | AGC1040 (for AWV2463) |
| | | IC8602 | Flash ROM | AGC1041 (for AWV2461, AWV2462) |
| AWV2452, AWV2447 | X DRIVE Assy | • Parts of X D-D CON BLOCK | | |
| AWV1262, AWV1260 | Y DRIVE Assy | • Parts of Y VF D-D CON BLOCK<br>• Parts of Y MAIN D-D CON BLOCK 1<br>• Parts of Y MAIN D-D CON BLOCK 2 | | |

| | | |
|---|---|---|
| POWER SUPPLY Unit | ➡ | The assembly must be replaced as a unit, and no part replacement is allowed. |
| MAIN Assy | ➡ | No adjustment is required after replacement of parts other than those mentioned above. |
| DIGITAL Assy | ➡ | No adjustment is required after replacement of parts other than those mentioned above. |
| X DRIVE Assy | ➡ | No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED. |
| Y DRIVE Assy | ➡ | No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED. |
| ADDRESS Assy | ➡ | No adjustment required |
| SENSOR Assy | ➡ | No adjustment is required after replacement of parts other than those mentioned above. |
| TANSHI Assy | ➡ | No adjustment required |

## 8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)

### ■ Outline

Adjustment data are stored in the EEPROM (IC3156/4K) on the DIGITAL Assy in the production process. Those adjustment data are also automatically stored in the EEPROM (for backup: IC3652) on the SENSOR Assy.
If the DIGITAL Assy is replaced, those adjustment data for backup can be copied from the EEPROM on the SENSOR Assy to a new DIGITAL Assy.

### ■ Backed up data

- Drive voltage adjustment value
- Hour-meter count
- Pulse-meter count
- Panel white balance adjustment value
- Serial No.
- Drive waveform adjustment value
- P-ON counter value
- PD/SD histories

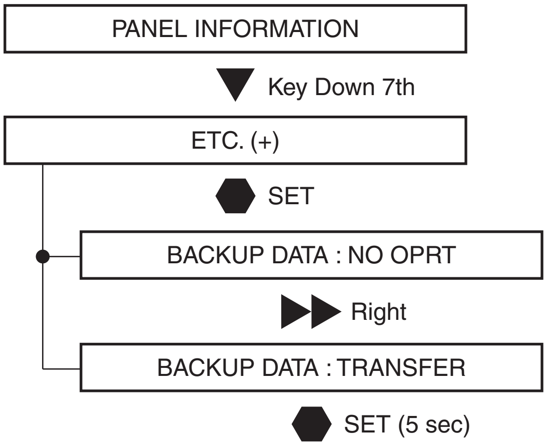
### ■ How to copy backup data

### 1. When the DIGITAL Assy is replaced with one for service (usual service)

Adjustment data can be restored by copying the data backed up in the SENSOR Assy to the EEPROM on a new DIGITAL Assy.
The EEPROM on the new DIGITAL Assy has no adjustment data, and the EEPROM for backup in the SENSOR Assy has adjustment data. After replacing the DIGITAL Assy, enter PANEL FACT. mode, display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP" and "ADJUSTED" is set for "BACKUP". Then, proceed in the following steps:

**(1) Copying, using the Factory menu**

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Copy the backup data, as shown in the figure below.



③ Turn the power off.

- After the DIGITAL Assy is replaced with one for service, be sure to check if "NO DATA!" is set for "DIG. EEP" on the PANEL INFORMATION page of the PANEL FACT. mode.
- If copying of the backup data fails in the above procedure, the red LED lights, and the blue LED flashes, as a warning that no backup data were copied.
- If both the DIGITAL and SENSOR Assys are to be replaced, first replace the SENSOR Assy, turn the unit on and back off again, then replace the DIGITAL Assy.

**(2) Copying, using the RS-232C commands**

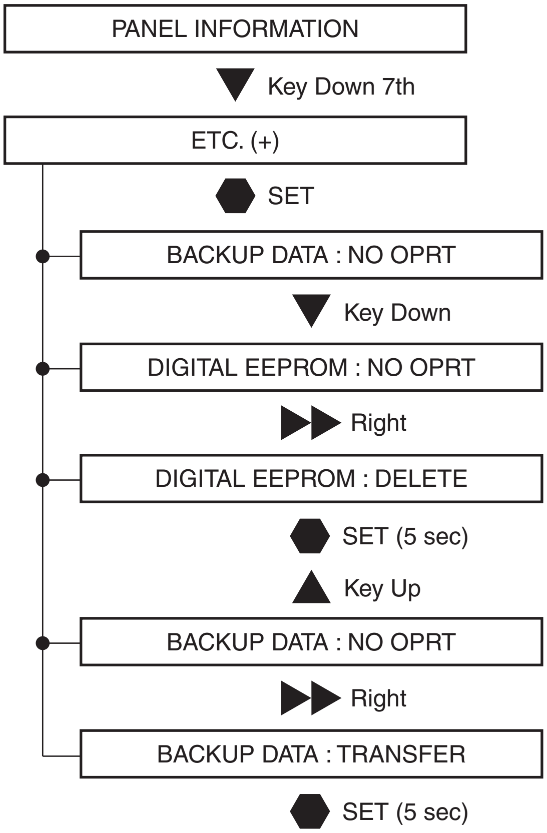
① Turn on the unit, using the remote control unit or by issuing the PON command. Then issue the FAY command.
② Issue the BCP command to transfer the data stored in the EEPROM for backup.
③ Turn the power off.

## 2. When a secondhand DIGITAL Assy that had been mounted in another product is to be reused

As adjustment data for another product are already stored in the secondhand DIGITAL Assy, first delete those data then copy the backup data stored in the EEPROM on the SENSOR Assy.

**(1) Copying, using the Factory menu**

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Copy the backup data, as shown in the figure below.


PANEL INFORMATION
Key Down 7th
ETC. (+)
SET
BACKUP DATA : NO OPRT
Key Down
DIGITAL EEPROM : NO OPRT
Right
DIGITAL EEPROM : DELETE
SET (5 sec)
Key Up
BACKUP DATA : NO OPRT
Right
BACKUP DATA : TRANSFER
SET (5 sec)

③ Turn the power off.

**Note:**

If the secondhand DIGITAL Assy is mounted in the product then the unit is turned on then back off again, the data in the EEPROM on the DIGITAL Assy are copied over the EEPROM in the SENSOR Assy. Thus the backup data can never be restored. During the first power-on after the DIGITAL Assy is replaced, be sure to enter Factory mode to copy the backup data. Or, before removing the secondhand DIGITAL Assy from the original product, delete the adjustment data on it, using the Factory mode (DIGITAL EEPROM: DELETE), mount it to the product to be repaired, then copy the data from the backup EEPROM.

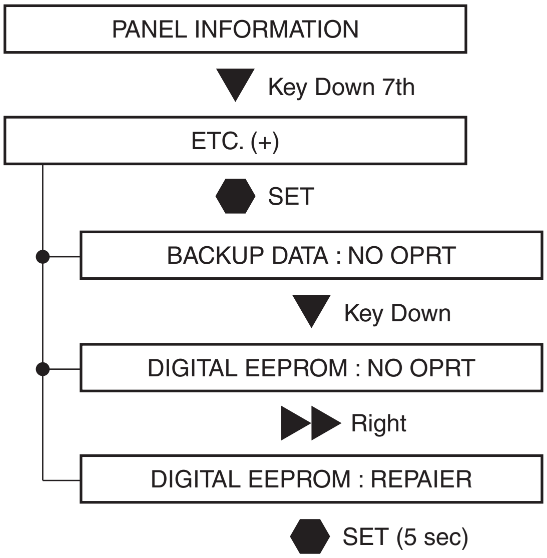
**(2) Copying, using the RS-232C commands**

① Turn on the unit, using the remote control unit or by issuing the PON command. Then issue the FAY command.
② Issue the UAJ command to delete data stored in the EEPROM on the DIGITAL Assy.
③ Issue the BCP command to transfer the data stored in the EEPROM for backup.
④ Turn the power off.

## 3. In a case where normal backup data are not stored in the backup EEPROM because the EEPROM on the DIGITAL Assy is defective, etc., and where manually adjusted values are to be applied to the product

**Note:** In this section, it is assumed that settings for various items have been completed, using Factory menu or RS-232C commands.

**(1) Method using the Factory menu**
① Set various setting/adjustment values.
② Proceed in the following steps.


PANEL INFORMATION
Key Down 7th
ETC. (+)
SET
BACKUP DATA : NO OPRT
Key Down
DIGITAL EEPROM : NO OPRT
Right
DIGITAL EEPROM : REPAIER
SET (5 sec)

③ Turn the power off.

**Note:**
When a DIGITAL Assy with an EEPROM in which adjustment data are stored is mounted, this step is not required after manual adjustment. ("DIGITAL EEPROM: REPAIR" is not indicated.)

**(2) Method using the RS-232C commands**
Issue the FAJ command.

## 8.3 HOW TO CLEAR HISTORY DATA

### ■ Clearance of various logs after the Assys are replaced

Besides adjustment data, data on accumulated power-on time and logs on defective parts of the product are backed up. Some of those data must be cleared after the Assys are replaced for service.

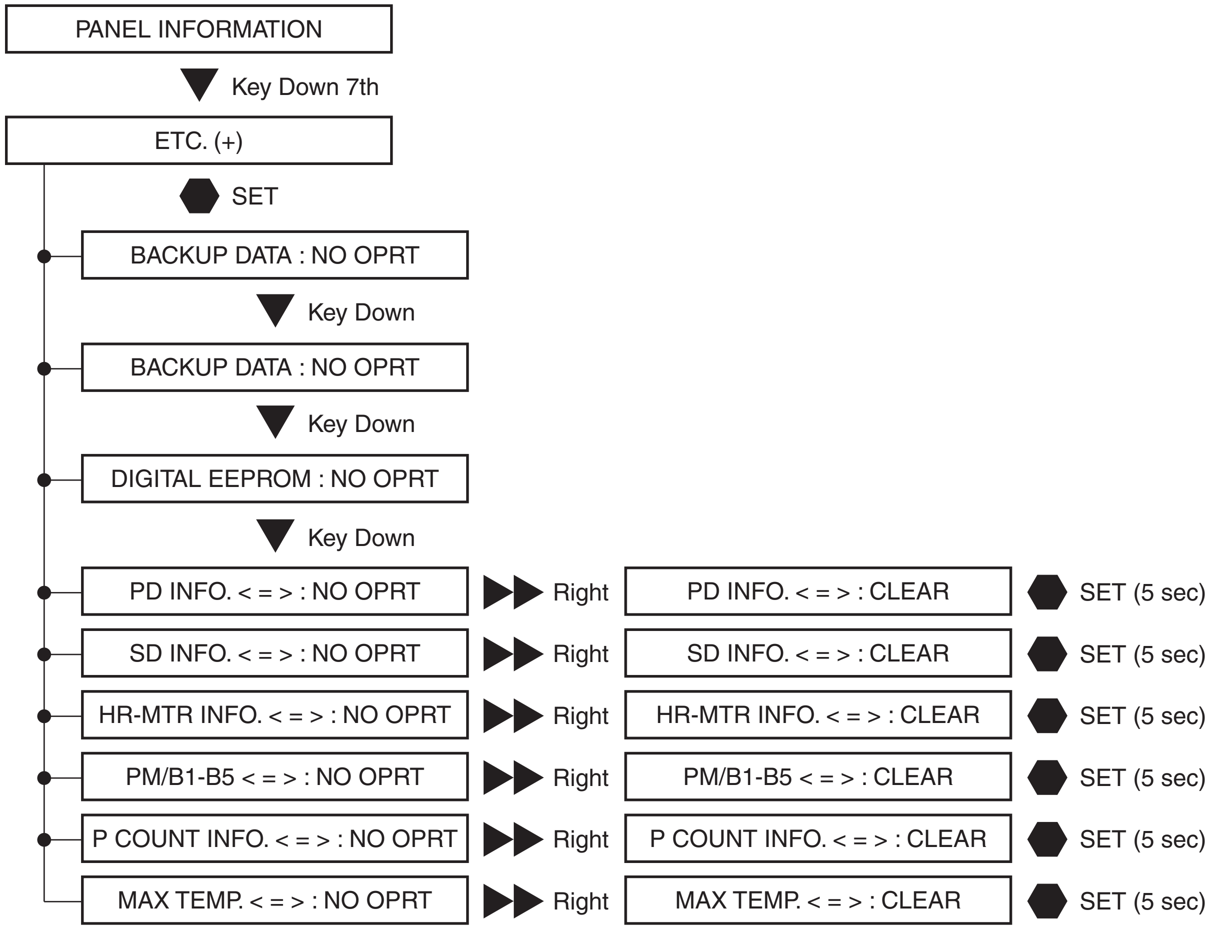
**(1) Clearance of logs, using the RS-232C commands**

| Item | Content | When the Panel is replaced | When the POWER SUPPLY Unit is replaced | When the Other parts is replaced | RS-232C Commands |
|---|---|---|---|---|---|
| Hour-meter | Accumulated power-on time | Must be cleared | No need to be cleared | No need to be cleared | CHM |
| Pulse-meter | Accumulated number of pulses emitted | Must be cleared (mandatory) | No need to be cleared | No need to be cleared | CPM |
| Shutdown history | Cause of an SD and hour-meter count | Must be cleared | No need to be cleared | No need to be cleared | CSD |
| Power-down history | Cause of an PD and hour-meter count | Must be cleared | No need to be cleared | No need to be cleared | CPD |
| Power-on counter | Relay-on count | No need to be cleared | Must be cleared (mandatory) | No need to be cleared | CPC |
| MAX TEMP | Historical max. temperature | Must be cleared | Must be cleared | Must be cleared | CMT |

**Notes:**
- As the pulse-meter count is used for each correction function, it must be cleared when an Assy relevant to correction functions is replaced.
- When clearing logs, using the RS-232C commands, first enter Factory mode (by issuing FAY or PFY), then issue the corresponding command.

**(2) Clearance of logs, using the Factory menu**

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Delete various logs, as shown in the figure below.


PANEL INFORMATION
Key Down 7th
ETC. (+)
SET
BACKUP DATA : NO OPRT
Key Down
BACKUP DATA : NO OPRT
Key Down
DIGITAL EEPROM : NO OPRT
Key Down
PD INFO. < = > : NO OPRT
Right
PD INFO. < = > : CLEAR
SET (5 sec)
SD INFO. < = > : NO OPRT
Right
SD INFO. < = > : CLEAR
SET (5 sec)
HR-MTR INFO. < = > : NO OPRT
Right
HR-MTR INFO. < = > : CLEAR
SET (5 sec)
PM/B1-B5 < = > : NO OPRT
Right
PM/B1-B5 < = > : CLEAR
SET (5 sec)
P COUNT INFO. < = > : NO OPRT
Right
P COUNT INFO. < = > : CLEAR
SET (5 sec)
MAX TEMP. < = > : NO OPRT
Right
MAX TEMP. < = > : CLEAR
SET (5 sec)

③ Turn the power off.

## 8.4 ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED

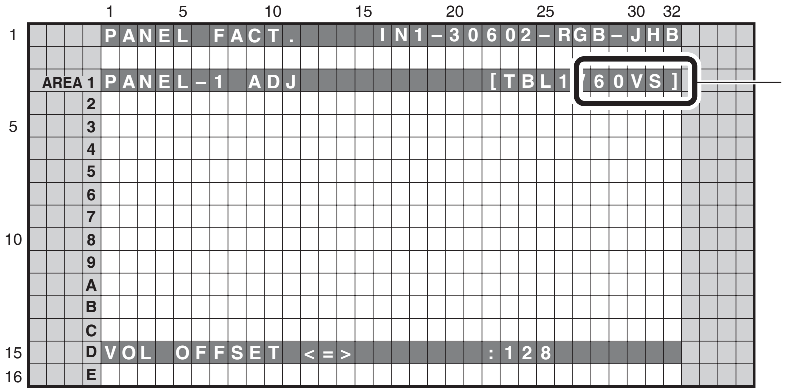
After the panel is replaced with one for service, voltage margin adjustment is required.

### [Preparation]

Basically, voltage margin adjustment is performed using the Panel Factory menu.
After the panel is replaced and the unit is turned on, clear the pulse meter first.
For details on how to clear the pulse meter, see "8.3 HOW TO CLEAR HISTORY DATA".

∗1: As various corrections are made referring to the pulse-meter count to calculate how long the panel has been used, if adjustment of the panel for service is performed without clearing the pulse-meter count, proper adjustments will not be performed.

∗2: The drive sequence for 60-Hz video is used for adjustment. When adjustment is made using the Panel Factory menu, the current drive sequence is displayed on the screen, as shown in the figure below. Make sure that 60VS is always indicated during adjustment.



```
PANEL FACT.     IN1-30602-RGB-JHB

PANEL-1 ADJ           [TBL1/60VS]
VOL OFFSET <=>        :128
```

Drive sequence indication

Example of the On-Screen display during Panel Factory mode

### [Supplement]

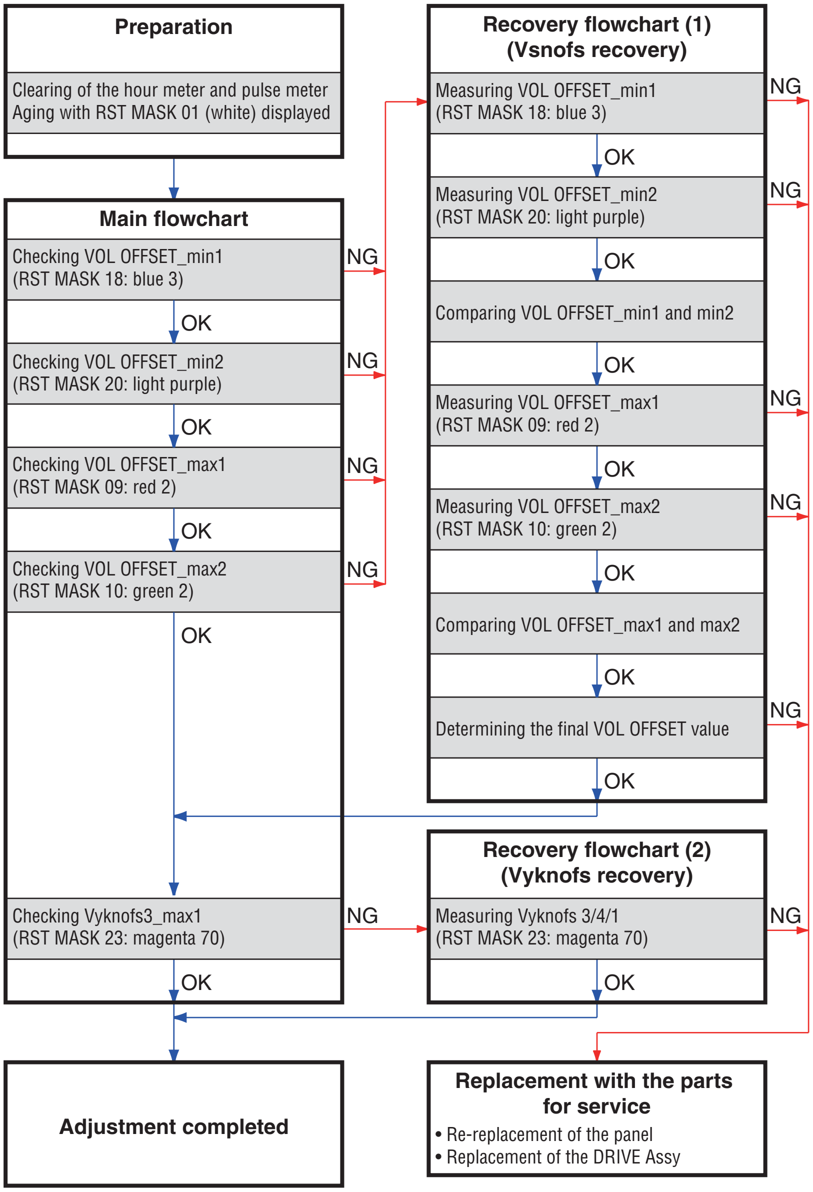
In the "PANEL-1ADJ" layer, the Panel White Balance value is reset to default, Panel Gamma is set to Straight, and Noise is set to OFF.
In this case, "- - - - /∗∗∗∗" (∗∗∗∗ represents the current drive sequence) is displayed on the third line of the On-Screen display during Panel Factory mode.

If adjustment is performed using RS-232C commands, the following commands must be transmitted for preparation:

**[PAV S00]**: To set panel drive mode to Factory
**[VFQ S03]**: To set Drive Sequence to Video 60 Hz
**[WBI S01]**: To temporarily reset the Panel WB adjustment value to default (WBI S00 cancels this setting.)
**[PGR S00]**: To set the gamma R value to that for Factory mode
**[PGG S00]**: To set the gamma G value to that for Factory mode
**[PGB S00]**: To set the gamma B value to that for Factory mode
**[DIZ S03]**:Dither ON,L dither ON, noise OFF.

∗: If the unit is shut down during the above adjustment flow, resend the above commands from the beginning.

## Overview


Preparation
Clearing of the hour meter and pulse meter
Aging with RST MASK 01 (white) displayed
Main flowchart
Checking VOL OFFSET_min1
(RST MASK 18: blue 3)
OK
Checking VOL OFFSET_min2
(RST MASK 20: light purple)
OK
Checking VOL OFFSET_max1
(RST MASK 09: red 2)
OK
Checking VOL OFFSET_max2
(RST MASK 10: green 2)
OK
Checking Vyknofs3_max1
(RST MASK 23: magenta 70)
OK
NG
NG
NG
NG
NG
Recovery flowchart (1)
(Vsnofs recovery)
Measuring VOL OFFSET_min1
(RST MASK 18: blue 3)
NG
OK
Measuring VOL OFFSET_min2
(RST MASK 20: light purple)
NG
OK
Comparing VOL OFFSET_min1 and min2
OK
Measuring VOL OFFSET_max1
(RST MASK 09: red 2)
NG
OK
Measuring VOL OFFSET_max2
(RST MASK 10: green 2)
NG
OK
Comparing VOL OFFSET_max1 and max2
OK
Determining the final VOL OFFSET value
NG
OK
Recovery flowchart (2)
(Vyknofs recovery)
Measuring Vyknofs 3/4/1
(RST MASK 23: magenta 70)
NG
OK
Adjustment completed
Replacement with the parts for service
• Re-replacement of the panel
• Replacement of the DRIVE Assy

### Definition of tones for the measuring signals

WIDE-XGA signal (1365*768)/Video 60-Hz sequence/Dither: ON, L dither: ON, noise: OFF

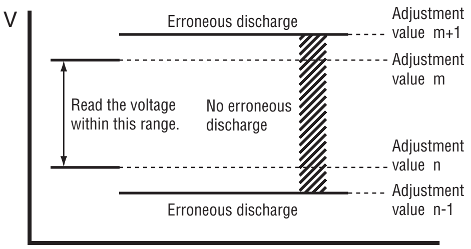
| | |
|---|---|
| White | RST MASK 01 (R 1023 /G 1023 /B 1023) |
| Red 2 | RST MASK 09 (R 648 /G 115 /B 115) |
| Green 2 | RST MASK 10 (R 115 /G 1023 /B 115) |
| Blue 3 | RST MASK 18 (R 152 /G 152 /B 482) |
| Light purple | RST MASK 20 (R 1023 /G 648 /B 1023) |
| Magenta 70 | RST MASK 23 (R 70 /G 0 /B 70) |

### Note on voltage calculation

When calculating the setting voltage, round off to get rid of the fractional part.

### Range of margin measuring

Read the voltage within the hysteresis (stricter value).


V
Erroneous discharge
Adjustment value m+1
Adjustment value m
Read the voltage within this range.
No erroneous discharge
Adjustment value n
Adjustment value n-1
Erroneous discharge

### Definition of limits for the voltage margins (abnormal lit/dead cells)

**Abnormal lit cells:**

- Five or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

**Abnormal dead cells**

- Fifteen or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

∗: Abnormal cells visually recognizable at a distance of 1 meter from the panel must be counted.

∗: Cells displayed abnormally for less than one second are not counted as abnormal cells.

## Preparation before adjustment

**[Replacement with the panel for service is completed.]**

**Procedures for resetting corrections for change over time**

Turn the unit on. / [PON]

Enter Factory mode. / [FAY]

Set PM/B1-B5 to CLEAR (to clear the pulse meter). / [CPM]

Set HR-MTR to CLEAR (to clear the hour meter). / [CHM]

Turn the unit off. / [POF]

**Procedures for stabilizing the panel before adjustment**

Turn the unit on. / [PON]

Enter Factory mode. / [FAY]

Enter the initial values for the panel for service.

VOL SUS (127 fixed) / [VSU 127]
VOL OFFSET (Vsnofs adjustment voltage) reduction / [VOF ∗∗∗]
VOL RST P (Vyprst adjustment voltage) reduction / [VPR ∗∗∗]
VOL XPOFS1 (128 fixed: not used) / [VX1 128]
VOL XPOFS2 (084 fixed) / [VX2 084]
VOL YNOFS3 (Vyknof3 adjustment voltage) reduction / [VY3 ∗∗∗]
VOL YNOFS1 (Vyknof3 adjustment voltage) reduction+43 / [VY1 ∗∗∗]
VOL YNOFS4 (Vyknof3 adjustment voltage) reduction+64 / [VY4 ∗∗∗]

**Note:**
On the XGA model, the circuits are not mounted in VX1.

Display RST MASK 01 (white). / [MKSS51]

Select Video 60-Hz sequence. / [VFQS03]

∗ To store the [VFQS03] command in memory, transmit it after displaying the mask.

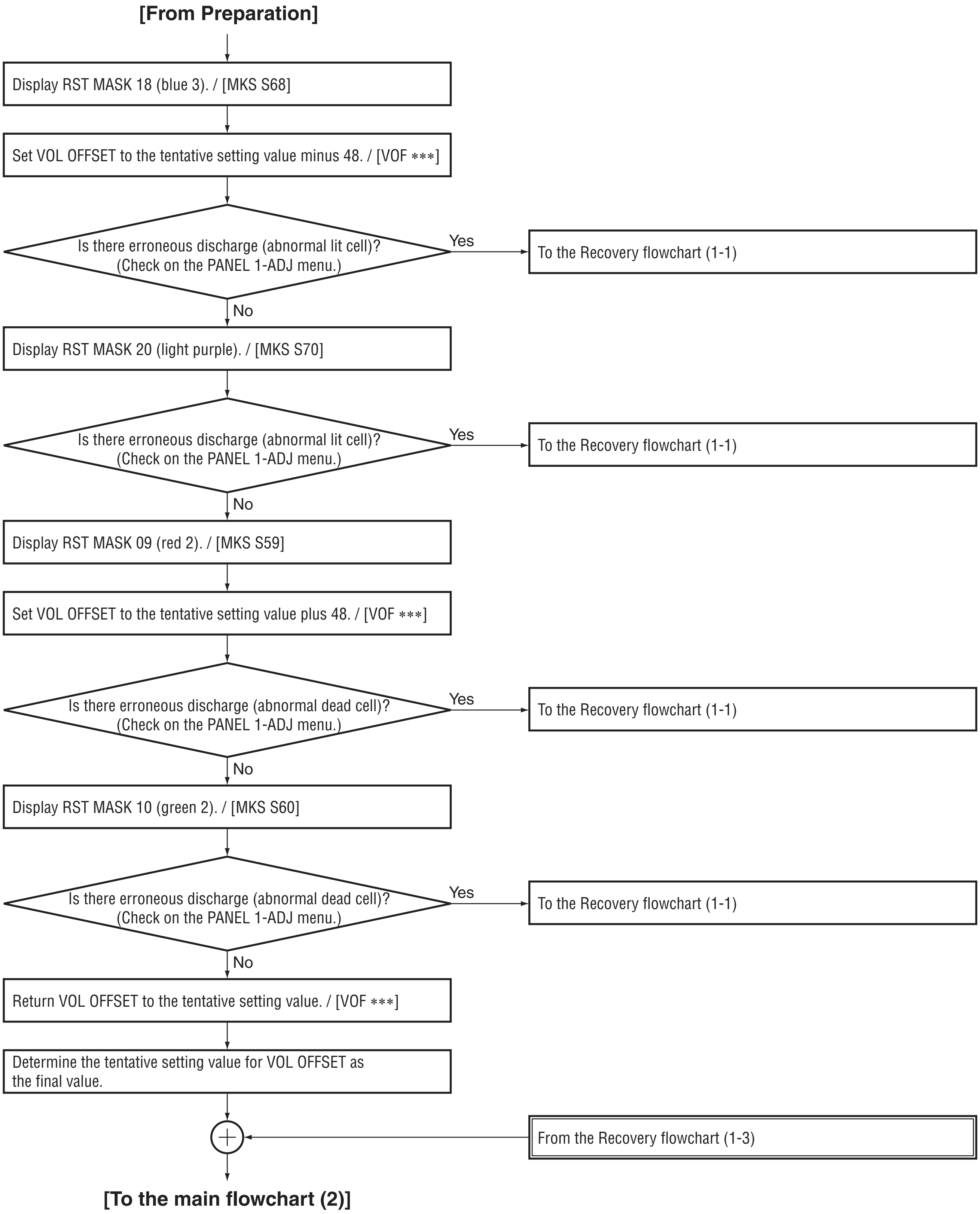
Perform aging for 5 minutes.

**[To the main flowchart (1)]**

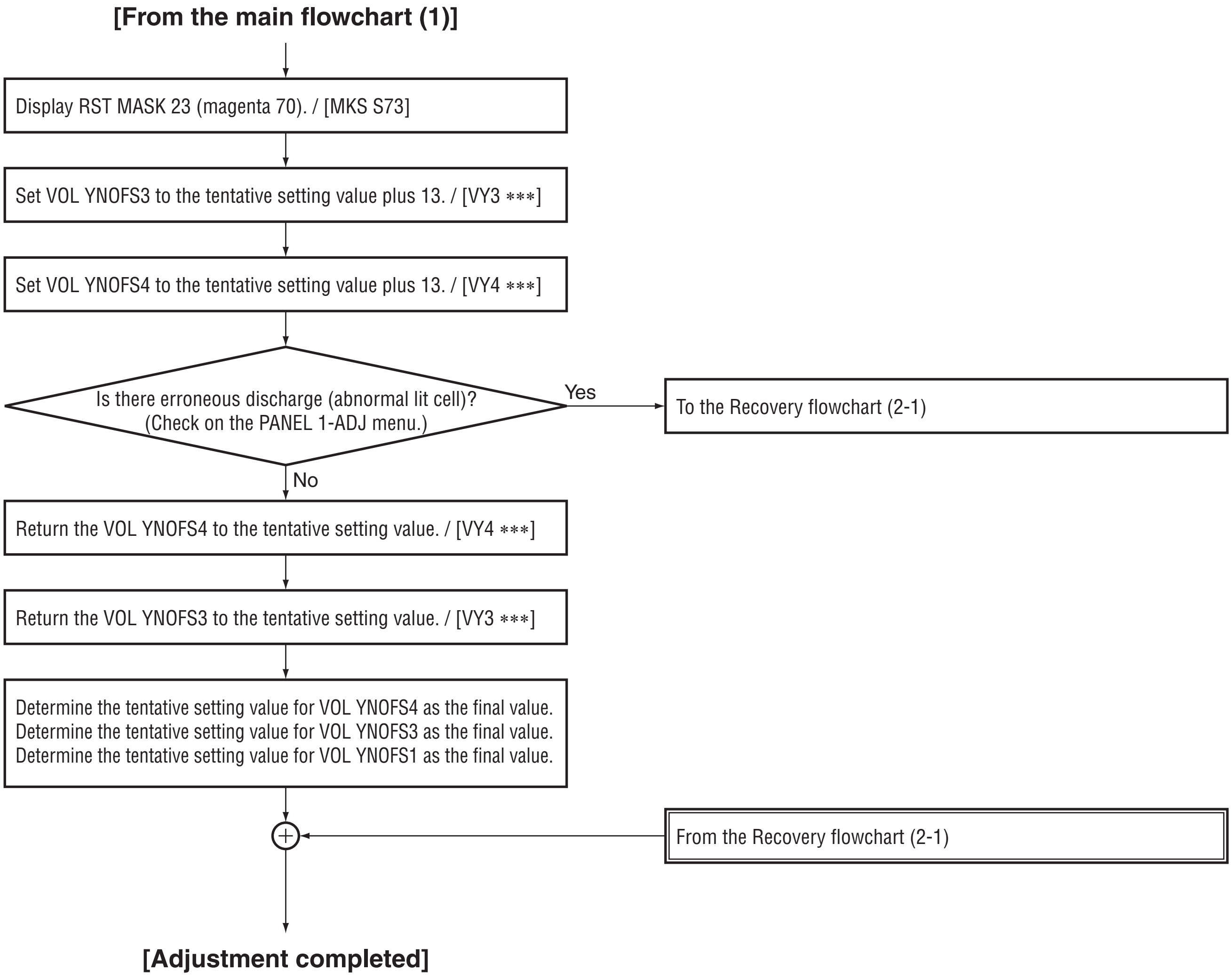
**Note:** If you perform the adjustment by RS-232C commands, the following commands must be added before going to the main flowchart (1):

**[PAV S00]**: To set panel drive mode to Factory
**[WBI S01]**: To temporarily reset the Panel WB adjustment value to default (WBI S00 cancels this setting.)
**[PGR S00]**: To set the gamma R value to that for Factory mode
**[PGG S00]**: To set the gamma G value to that for Factory mode
**[PGB S00]**: To set the gamma B value to that for Factory mode
**[DIZ S03]**:Dither ON,L dither ON, noise OFF

## Main flowchart (1)...Checking VOL OFFSET


[From Preparation]
Display RST MASK 18 (blue 3). / [MKS S68]
Set VOL OFFSET to the tentative setting value minus 48. / [VOF ∗∗∗]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-1)
No
Display RST MASK 20 (light purple). / [MKS S70]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-1)
No
Display RST MASK 09 (red 2). / [MKS S59]
Set VOL OFFSET to the tentative setting value plus 48. / [VOF ∗∗∗]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-1)
No
Display RST MASK 10 (green 2). / [MKS S60]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-1)
No
Return VOL OFFSET to the tentative setting value. / [VOF ∗∗∗]
Determine the tentative setting value for VOL OFFSET as the final value.
From the Recovery flowchart (1-3)
[To the main flowchart (2)]

## Main flowchart (2)...Checking VOL YNOFS3

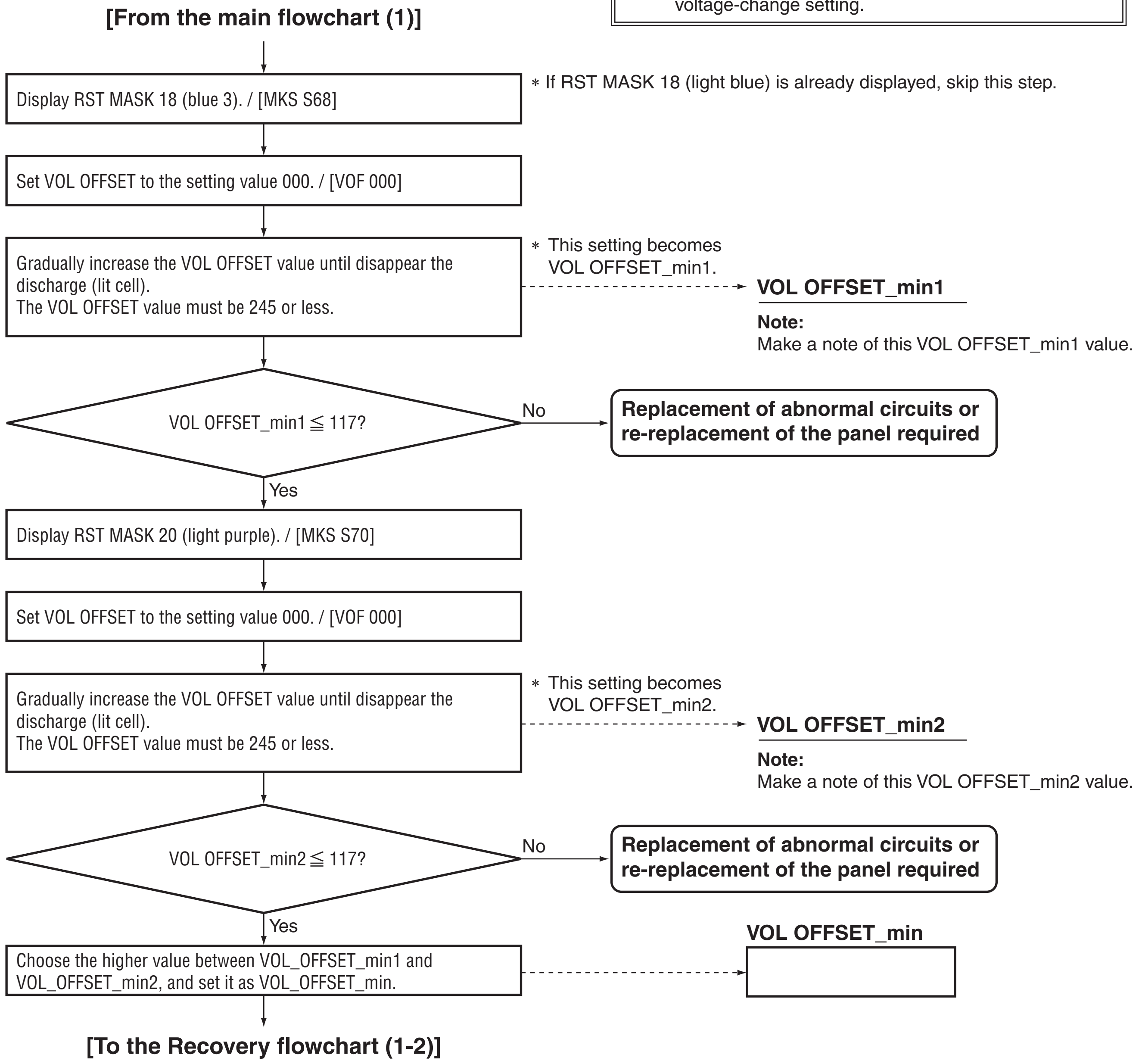

[From the main flowchart (1)]
Display RST MASK 23 (magenta 70). / [MKS S73]
Set VOL YNOFS3 to the tentative setting value plus 13. / [VY3 ∗∗∗]
Set VOL YNOFS4 to the tentative setting value plus 13. / [VY4 ∗∗∗]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (2-1)
No
Return the VOL YNOFS4 to the tentative setting value. / [VY4 ∗∗∗]
Return the VOL YNOFS3 to the tentative setting value. / [VY3 ∗∗∗]
Determine the tentative setting value for VOL YNOFS4 as the final value.
Determine the tentative setting value for VOL YNOFS3 as the final value.
Determine the tentative setting value for VOL YNOFS1 as the final value.
From the Recovery flowchart (2-1)
[Adjustment completed]

**Note:** Make sure that the values for VOL SUS(*1), VOL OFFSET, VOL RST P(*1), VOL XPOFS1, 2(*1) and VOL YNOFS1, 3, 4 are the final setting values.

*1: The tentative setting value becomes the final value.

## Recovery flowchart (1-1)...Changing the Vol Offset setting voltage

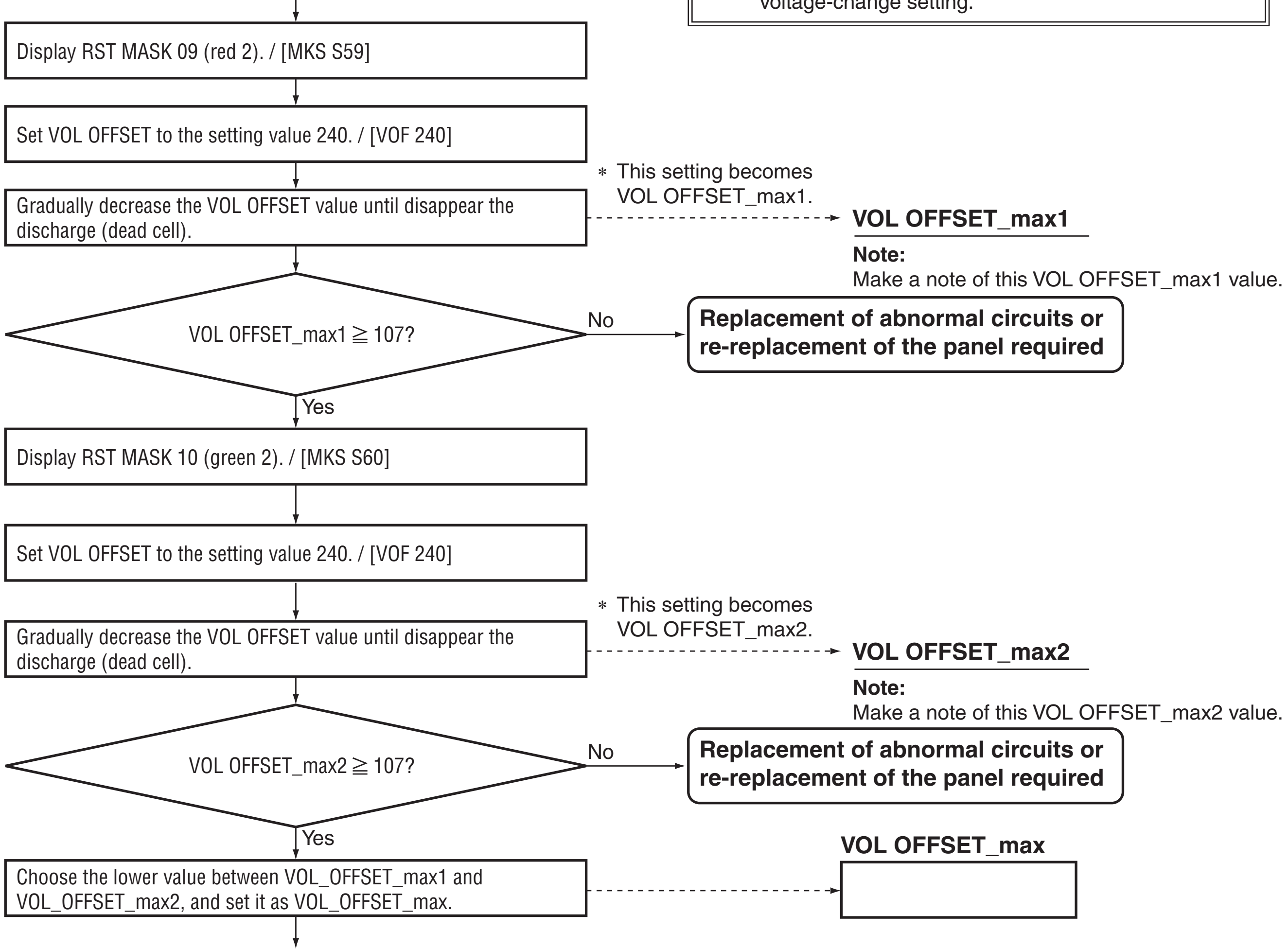
**Note:** Disregard the discharge that may appear during voltage-change setting.


[From the main flowchart (1)]
Display RST MASK 18 (blue 3). / [MKS S68]
* If RST MASK 18 (light blue) is already displayed, skip this step.
Set VOL OFFSET to the setting value 000. / [VOF 000]
Gradually increase the VOL OFFSET value until disappear the discharge (lit cell).
The VOL OFFSET value must be 245 or less.
* This setting becomes VOL OFFSET_min1.
VOL OFFSET_min1
Note:
Make a note of this VOL OFFSET_min1 value.
VOL OFFSET_min1 ≦ 117?
No
Replacement of abnormal circuits or re-replacement of the panel required
Yes
Display RST MASK 20 (light purple). / [MKS S70]
Set VOL OFFSET to the setting value 000. / [VOF 000]
Gradually increase the VOL OFFSET value until disappear the discharge (lit cell).
The VOL OFFSET value must be 245 or less.
* This setting becomes VOL OFFSET_min2.
VOL OFFSET_min2
Note:
Make a note of this VOL OFFSET_min2 value.
VOL OFFSET_min2 ≦ 117?
No
Replacement of abnormal circuits or re-replacement of the panel required
Yes
Choose the higher value between VOL_OFFSET_min1 and VOL_OFFSET_min2, and set it as VOL_OFFSET_min.
VOL OFFSET_min
[To the Recovery flowchart (1-2)]

## Recovery flowchart (1-2)

**[From the Recovery flowchart (1-1)]**

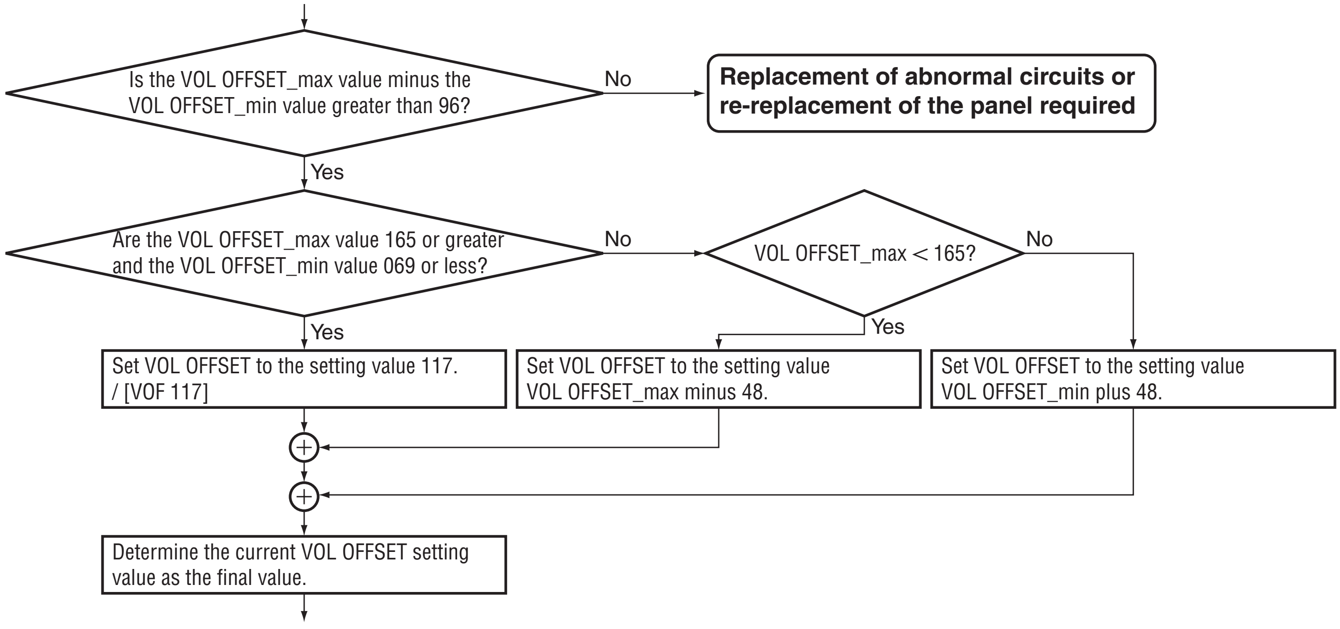
**Note:** Disregard the discharge that may appear during voltage-change setting.


Display RST MASK 09 (red 2). / [MKS S59]
Set VOL OFFSET to the setting value 240. / [VOF 240]
Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).
* This setting becomes VOL OFFSET_max1.
VOL OFFSET_max1
Note:
Make a note of this VOL OFFSET_max1 value.
VOL OFFSET_max1 ≧ 107?
No
Replacement of abnormal circuits or re-replacement of the panel required
Yes
Display RST MASK 10 (green 2). / [MKS S60]
Set VOL OFFSET to the setting value 240. / [VOF 240]
Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).
* This setting becomes VOL OFFSET_max2.
VOL OFFSET_max2
Note:
Make a note of this VOL OFFSET_max2 value.
VOL OFFSET_max2 ≧ 107?
No
Replacement of abnormal circuits or re-replacement of the panel required
Yes
Choose the lower value between VOL_OFFSET_max1 and VOL_OFFSET_max2, and set it as VOL_OFFSET_max.
VOL OFFSET_max

**[To the Recovery flowchart (1-3)]**

## Recovery flowchart (1-3)

**[From the Recovery flowchart (1-2)]**

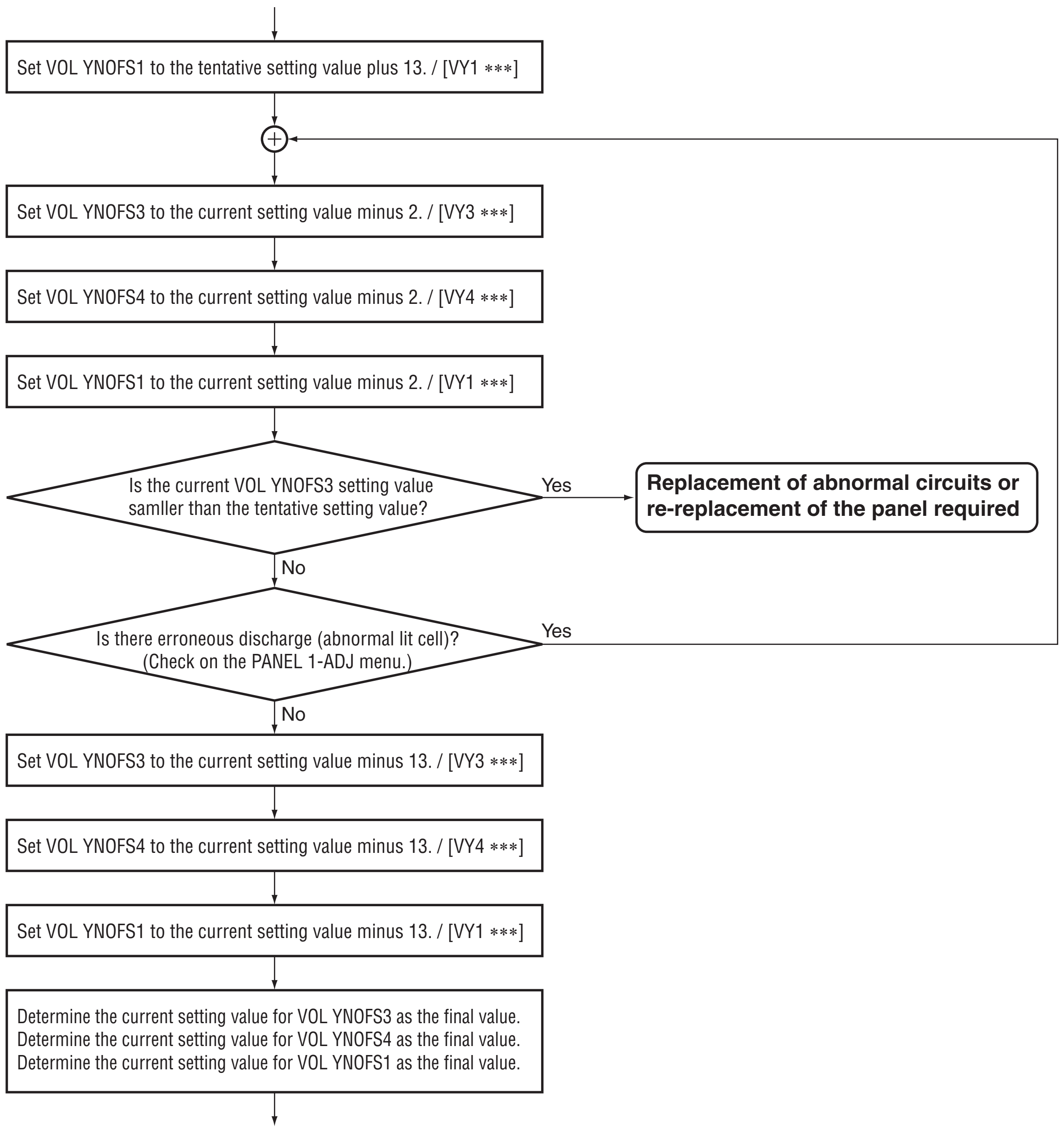

Is the VOL OFFSET_max value minus the VOL OFFSET_min value greater than 96?
No
Replacement of abnormal circuits or re-replacement of the panel required
Yes
Are the VOL OFFSET_max value 165 or greater and the VOL OFFSET_min value 069 or less?
No
VOL OFFSET_max < 165?
No
Yes
Yes
Set VOL OFFSET to the setting value 117. / [VOF 117]
Set VOL OFFSET to the setting value VOL OFFSET_max minus 48.
Set VOL OFFSET to the setting value VOL OFFSET_min plus 48.
Determine the current VOL OFFSET setting value as the final value.

**[To the main flowchart (1)]**

## Recovery flowchart (2-1)...Changing the VOL YNOFS3 setting voltage

**Note:** Disregard the discharge that may appear during voltage-change setting.

**[From the main flowchart (2)]**


Set VOL YNOFS1 to the tentative setting value plus 13. / [VY1 ***]
Set VOL YNOFS3 to the current setting value minus 2. / [VY3 ***]
Set VOL YNOFS4 to the current setting value minus 2. / [VY4 ***]
Set VOL YNOFS1 to the current setting value minus 2. / [VY1 ***]
Is the current VOL YNOFS3 setting value samller than the tentative setting value?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
No
Set VOL YNOFS3 to the current setting value minus 13. / [VY3 ***]
Set VOL YNOFS4 to the current setting value minus 13. / [VY4 ***]
Set VOL YNOFS1 to the current setting value minus 13. / [VY1 ***]
Determine the current setting value for VOL YNOFS3 as the final value.
Determine the current setting value for VOL YNOFS4 as the final value.
Determine the current setting value for VOL YNOFS1 as the final value.

**[To the main flowchart (2)]**

## Setting Voltages

| VOF | |
|---|---|
| Vysnofs (V) | Value |
| 14 | 000 |
| 15 | 005 |
| 16 | 011 |
| 17 | 016 |
| 18 | 021 |
| 19 | 027 |
| 20 | 032 |
| 21 | 037 |
| 22 | 043 |
| 23 | 048 |
| 24 | 053 |
| 25 | 059 |
| 26 | 064 |
| 27 | 069 |
| 28 | 075 |
| 29 | 080 |
| 30 | 085 |
| 31 | 091 |
| 32 | 096 |
| 33 | 101 |
| 34 | 107 |
| 35 | 112 |
| 36 | 117 |
| 37 | 123 |
| 38 | 128 |
| 39 | 133 |
| 40 | 139 |
| 41 | 144 |
| 42 | 149 |
| 43 | 155 |
| 44 | 160 |
| 45 | 165 |
| 46 | 171 |
| 47 | 176 |
| 48 | 181 |
| 49 | 187 |
| 50 | 192 |
| 51 | 197 |
| 52 | 203 |
| 53 | 208 |
| 54 | 213 |
| 55 | 219 |
| 56 | 224 |
| 57 | 229 |
| 58 | 235 |
| 59 | 240 |
| 60 | 245 |
| 61 | 251 |

| VRP | | | | | |
|---|---|---|---|---|---|
| Vyprst (V) | Value | Vyprst (V) | Value | Vyprst (V) | Value |
| 130 | 001 | 190 | 109 | 250 | 217 |
| 131 | 003 | 191 | 111 | 251 | 219 |
| 132 | 004 | 192 | 113 | 252 | 221 |
| 133 | 006 | 193 | 114 | 253 | 223 |
| 134 | 008 | 194 | 116 | 254 | 224 |
| 135 | 010 | 195 | 118 | 255 | 226 |
| 136 | 012 | 196 | 120 | 256 | 228 |
| 137 | 013 | 197 | 122 | 257 | 230 |
| 138 | 015 | 198 | 123 | 258 | 232 |
| 139 | 017 | 199 | 125 | 259 | 233 |
| 140 | 019 | 200 | 127 | 260 | 235 |
| 141 | 021 | 201 | 129 | 261 | 237 |
| 142 | 022 | 202 | 131 | 262 | 239 |
| 143 | 024 | 203 | 133 | 263 | 241 |
| 144 | 026 | 204 | 134 | 264 | 242 |
| 145 | 028 | 205 | 136 | 265 | 244 |
| 146 | 030 | 206 | 138 | 266 | 246 |
| 147 | 031 | 207 | 140 | 267 | 248 |
| 148 | 033 | 208 | 142 | 268 | 250 |
| 149 | 035 | 209 | 143 | 269 | 251 |
| 150 | 037 | 210 | 145 | 270 | 253 |
| 151 | 039 | 211 | 147 | 271 | 255 |
| 152 | 041 | 212 | 149 | | |
| 153 | 042 | 213 | 150 | | |
| 154 | 044 | 214 | 152 | | |
| 155 | 046 | 215 | 154 | | |
| 156 | 048 | 216 | 156 | | |
| 157 | 050 | 217 | 158 | | |
| 158 | 051 | 218 | 159 | | |
| 159 | 053 | 219 | 161 | | |
| 160 | 055 | 220 | 163 | | |
| 161 | 057 | 221 | 165 | | |
| 162 | 059 | 222 | 167 | | |
| 163 | 060 | 223 | 169 | | |
| 164 | 062 | 224 | 170 | | |
| 165 | 064 | 225 | 172 | | |
| 166 | 066 | 226 | 174 | | |
| 167 | 068 | 227 | 176 | | |
| 168 | 069 | 228 | 178 | | |
| 169 | 071 | 229 | 179 | | |
| 170 | 073 | 230 | 181 | | |
| 171 | 075 | 231 | 183 | | |
| 172 | 076 | 232 | 185 | | |
| 173 | 078 | 233 | 187 | | |
| 174 | 080 | 234 | 188 | | |
| 175 | 082 | 235 | 190 | | |
| 176 | 084 | 236 | 192 | | |
| 177 | 086 | 237 | 194 | | |
| 178 | 087 | 238 | 196 | | |
| 179 | 089 | 239 | 197 | | |
| 180 | 091 | 240 | 199 | | |
| 181 | 093 | 241 | 201 | | |
| 182 | 095 | 242 | 203 | | |
| 183 | 096 | 243 | 205 | | |
| 184 | 098 | 244 | 206 | | |
| 185 | 100 | 245 | 208 | | |
| 186 | 102 | 246 | 210 | | |
| 187 | 104 | 247 | 212 | | |
| 188 | 105 | 248 | 214 | | |
| 189 | 107 | 249 | 215 | | |

| VY1 | | | |
|---|---|---|---|
| Vyknofs1,2 (V) | Value | Vyknofs1,2 (V) | Value |
| 151 | 001 | 211 | 129 |
| 152 | 003 | 212 | 131 |
| 153 | 005 | 213 | 133 |
| 154 | 008 | 214 | 136 |
| 155 | 010 | 215 | 138 |
| 156 | 012 | 216 | 140 |
| 157 | 014 | 217 | 142 |
| 158 | 016 | 218 | 144 |
| 159 | 018 | 219 | 146 |
| 160 | 020 | 220 | 148 |
| 161 | 022 | 221 | 150 |
| 162 | 025 | 222 | 153 |
| 163 | 027 | 223 | 155 |
| 164 | 029 | 224 | 157 |
| 165 | 031 | 225 | 159 |
| 166 | 033 | 226 | 161 |
| 167 | 035 | 227 | 163 |
| 168 | 037 | 228 | 165 |
| 169 | 040 | 229 | 168 |
| 170 | 042 | 230 | 170 |
| 171 | 044 | 231 | 172 |
| 172 | 046 | 232 | 174 |
| 173 | 048 | 233 | 176 |
| 174 | 050 | 234 | 178 |
| 175 | 052 | 235 | 180 |
| 176 | 054 | 236 | 182 |
| 177 | 057 | 237 | 185 |
| 178 | 059 | 238 | 187 |
| 179 | 061 | 239 | 189 |
| 180 | 063 | 240 | 191 |
| 181 | 065 | 241 | 193 |
| 182 | 067 | 242 | 195 |
| 183 | 069 | 243 | 197 |
| 184 | 072 | 244 | 200 |
| 185 | 074 | 245 | 202 |
| 186 | 076 | 246 | 204 |
| 187 | 078 | 247 | 206 |
| 188 | 080 | 248 | 208 |
| 189 | 082 | 249 | 210 |
| 190 | 084 | 250 | 212 |
| 191 | 086 | 251 | 214 |
| 192 | 089 | 252 | 217 |
| 193 | 091 | 253 | 219 |
| 194 | 093 | 254 | 221 |
| 195 | 095 | 255 | 223 |
| 196 | 097 | 256 | 225 |
| 197 | 099 | 257 | 227 |
| 198 | 101 | 258 | 229 |
| 199 | 104 | 259 | 232 |
| 200 | 106 | 260 | 234 |
| 201 | 108 | 261 | 236 |
| 202 | 110 | 262 | 238 |
| 203 | 112 | 263 | 240 |
| 204 | 114 | 264 | 242 |
| 205 | 116 | 265 | 244 |
| 206 | 118 | 266 | 246 |
| 207 | 121 | 267 | 249 |
| 208 | 123 | 268 | 251 |
| 209 | 125 | 269 | 253 |
| 210 | 127 | 270 | 255 |

| VY3 | | | |
|---|---|---|---|
| Vyknofs3 (V) | Value | Vyknofs3 (V) | Value |
| 151 | 001 | 211 | 129 |
| 152 | 003 | 212 | 131 |
| 153 | 005 | 213 | 133 |
| 154 | 008 | 214 | 136 |
| 155 | 010 | 215 | 138 |
| 156 | 012 | 216 | 140 |
| 157 | 014 | 217 | 142 |
| 158 | 016 | 218 | 144 |
| 159 | 018 | 219 | 146 |
| 160 | 020 | 220 | 148 |
| 161 | 022 | 221 | 150 |
| 162 | 025 | 222 | 153 |
| 163 | 027 | 223 | 155 |
| 164 | 029 | 224 | 157 |
| 165 | 031 | 225 | 159 |
| 166 | 033 | 226 | 161 |
| 167 | 035 | 227 | 163 |
| 168 | 037 | 228 | 165 |
| 169 | 040 | 229 | 168 |
| 170 | 042 | 230 | 170 |
| 171 | 044 | 231 | 172 |
| 172 | 046 | 232 | 174 |
| 173 | 048 | 233 | 176 |
| 174 | 050 | 234 | 178 |
| 175 | 052 | 235 | 180 |
| 176 | 054 | 236 | 182 |
| 177 | 057 | 237 | 185 |
| 178 | 059 | 238 | 187 |
| 179 | 061 | 239 | 189 |
| 180 | 063 | 240 | 191 |
| 181 | 065 | 241 | 193 |
| 182 | 067 | 242 | 195 |
| 183 | 069 | 243 | 197 |
| 184 | 072 | 244 | 200 |
| 185 | 074 | 245 | 202 |
| 186 | 076 | 246 | 204 |
| 187 | 078 | 247 | 206 |
| 188 | 080 | 248 | 208 |
| 189 | 082 | 249 | 210 |
| 190 | 084 | 250 | 212 |
| 191 | 086 | 251 | 214 |
| 192 | 089 | 252 | 217 |
| 193 | 091 | 253 | 219 |
| 194 | 093 | 254 | 221 |
| 195 | 095 | 255 | 223 |
| 196 | 097 | 256 | 225 |
| 197 | 099 | 257 | 227 |
| 198 | 101 | 258 | 229 |
| 199 | 104 | 259 | 232 |
| 200 | 106 | 260 | 234 |
| 201 | 108 | 261 | 236 |
| 202 | 110 | 262 | 238 |
| 203 | 112 | 263 | 240 |
| 204 | 114 | 264 | 242 |
| 205 | 116 | 265 | 244 |
| 206 | 118 | 266 | 246 |
| 207 | 121 | 267 | 249 |
| 208 | 123 | 268 | 251 |
| 209 | 125 | 269 | 253 |
| 210 | 127 | 270 | 255 |

| VY4 | | | |
|---|---|---|---|
| Vyknofs4 (V) | Value | Vyknofs4 (V) | Value |
| 151 | 001 | 211 | 129 |
| 152 | 003 | 212 | 131 |
| 153 | 005 | 213 | 133 |
| 154 | 008 | 214 | 136 |
| 155 | 010 | 215 | 138 |
| 156 | 012 | 216 | 140 |
| 157 | 014 | 217 | 142 |
| 158 | 016 | 218 | 144 |
| 159 | 018 | 219 | 146 |
| 160 | 020 | 220 | 148 |
| 161 | 022 | 221 | 150 |
| 162 | 025 | 222 | 153 |
| 163 | 027 | 223 | 155 |
| 164 | 029 | 224 | 157 |
| 165 | 031 | 225 | 159 |
| 166 | 033 | 226 | 161 |
| 167 | 035 | 227 | 163 |
| 168 | 037 | 228 | 165 |
| 169 | 040 | 229 | 168 |
| 170 | 042 | 230 | 170 |
| 171 | 044 | 231 | 172 |
| 172 | 046 | 232 | 174 |
| 173 | 048 | 233 | 176 |
| 174 | 050 | 234 | 178 |
| 175 | 052 | 235 | 180 |
| 176 | 054 | 236 | 182 |
| 177 | 057 | 237 | 185 |
| 178 | 059 | 238 | 187 |
| 179 | 061 | 239 | 189 |
| 180 | 063 | 240 | 191 |
| 181 | 065 | 241 | 193 |
| 182 | 067 | 242 | 195 |
| 183 | 069 | 243 | 197 |
| 184 | 072 | 244 | 200 |
| 185 | 074 | 245 | 202 |
| 186 | 076 | 246 | 204 |
| 187 | 078 | 247 | 206 |
| 188 | 080 | 248 | 208 |
| 189 | 082 | 249 | 210 |
| 190 | 084 | 250 | 212 |
| 191 | 086 | 251 | 214 |
| 192 | 089 | 252 | 217 |
| 193 | 091 | 253 | 219 |
| 194 | 093 | 254 | 221 |
| 195 | 095 | 255 | 223 |
| 196 | 097 | 256 | 225 |
| 197 | 099 | 257 | 227 |
| 198 | 101 | 258 | 229 |
| 199 | 104 | 259 | 232 |
| 200 | 106 | 260 | 234 |
| 201 | 108 | 261 | 236 |
| 202 | 110 | 262 | 238 |
| 203 | 112 | 263 | 240 |
| 204 | 114 | 264 | 242 |
| 205 | 116 | 265 | 244 |
| 206 | 118 | 266 | 246 |
| 207 | 121 | 267 | 249 |
| 208 | 123 | 268 | 251 |
| 209 | 125 | 269 | 253 |
| 210 | 127 | 270 | 255 |

## 8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED

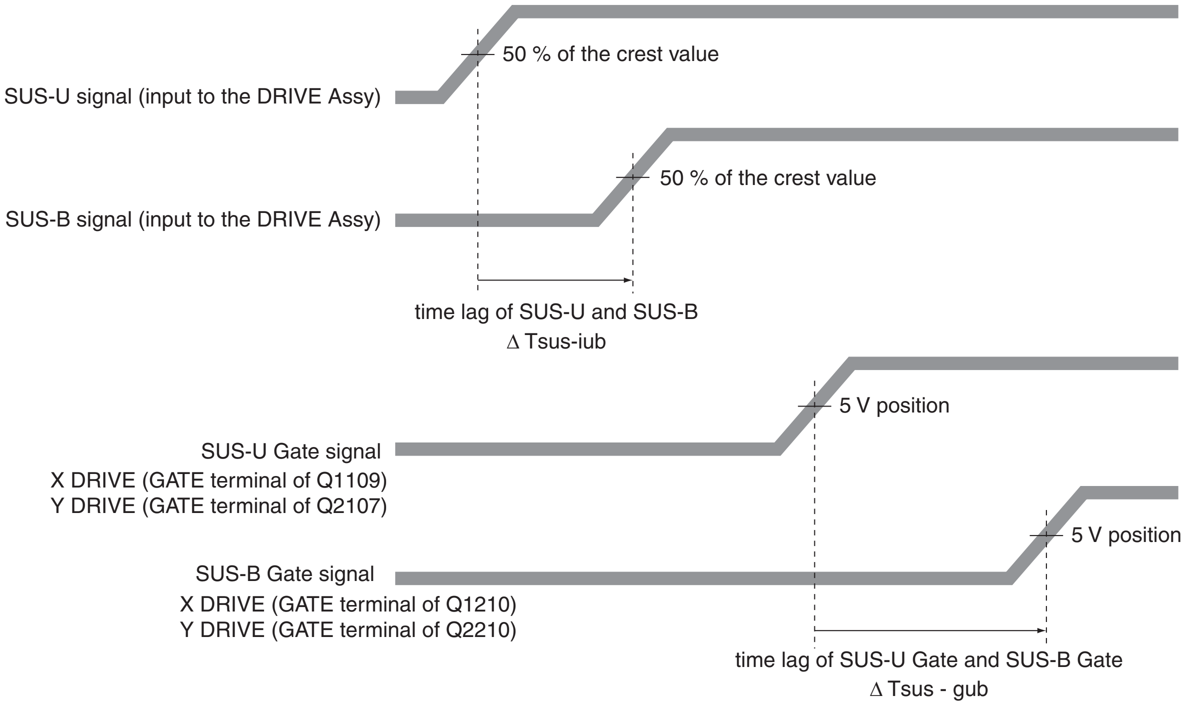
### Waveform adjustments required when replacing the following parts of the X DRIVE and Y DRIVE Assys.

| Assy Name | Ref No. | Part Name | Part Category | Remarks |
|---|---|---|---|---|
| X DRIVE Assy | IC1101 | PS9117AP | Photo Coupler | |
| | IC1104 | TND307TD | FET Driver | |
| | IC1204 | PS9117AP | Photo Coupler | |
| | IC1209 | TND307TD | FET Driver | |
| Y DRIVE Assy | IC2101 | PS9117AP | Photo Coupler | |
| | IC2103 | TND307TD | FET Driver | |
| | IC2201 | PS9117AP | Photo Coupler | |
| | IC2203 | TND307TD | FET Driver | |

### TIME LAG ADJUSTMENT OF THE CONTROL SIGNAL (SUS-B)

① Measure the time lag for the SUS-U signal to the SUS-B signal.
② Check the time lag for the SUS-B GATE signal to the SUS-U GATE siganl.
Adjust the variable control so that the time lag of GATE becomes " time lag of input signal + $\alpha \pm 5$ nsec."

**Note:** For details on measuring points of waveform, see the figure below.



50 % of the crest value
SUS-U signal (input to the DRIVE Assy)
50 % of the crest value
SUS-B signal (input to the DRIVE Assy)
time lag of SUS-U and SUS-B
Δ Tsus-iub
5 V position
SUS-U Gate signal
X DRIVE (GATE terminal of Q1109)
Y DRIVE (GATE terminal of Q2107)
5 V position
SUS-B Gate signal
X DRIVE (GATE terminal of Q1210)
Y DRIVE (GATE terminal of Q2210)
time lag of SUS-U Gate and SUS-B Gate
Δ Tsus - gub

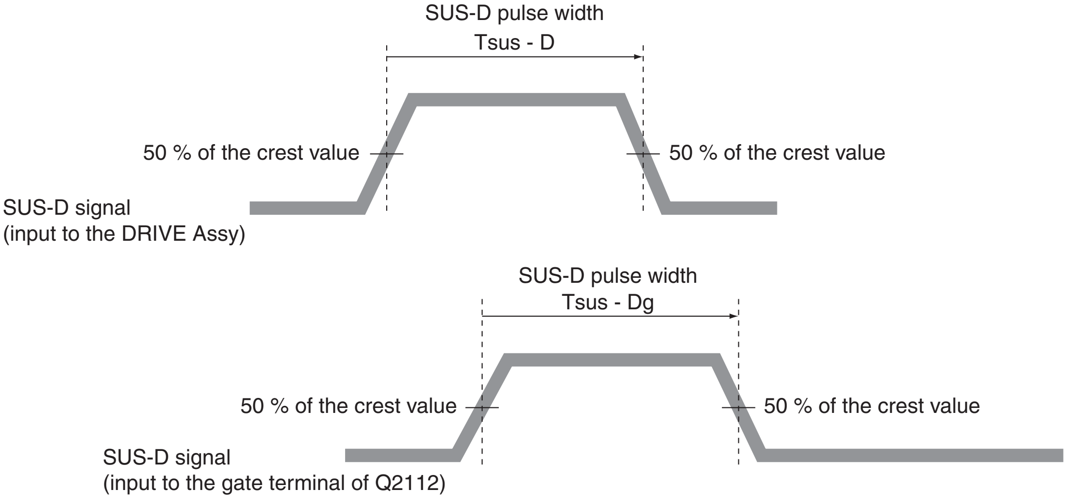
**Time lag of SUS-U Gate and SUS-B Gate : Δ Tsus - gub**
Adjust so that "Δ Tsus - gub = Δ Tsus - iub + $\alpha \pm 5$ nsec," using the variable controls shown in the table below:

| Assy | VR | Value of α |
|---|---|---|
| X DRIVE Assy | VR1002 | 70 nsec |
| Y DRIVE Assy | VR2002 | 50 nsec |

## DELAY ADJUSTMENT OF THE CONTROL SIGNAL (SUS-D)

① Measure the pulse width of the SUS-D signal.
② Check the pulse width of the SUS-D input signal (gate terminal of Q2112).
Adjust the variable control so that the pulse width of the SUS-D input signal (gate terminal of Q2112) becomes the same pulse width ± 5 nsec as the SUS-D signal.

**Note:** For details on measuring points of waveform, see the figure below.

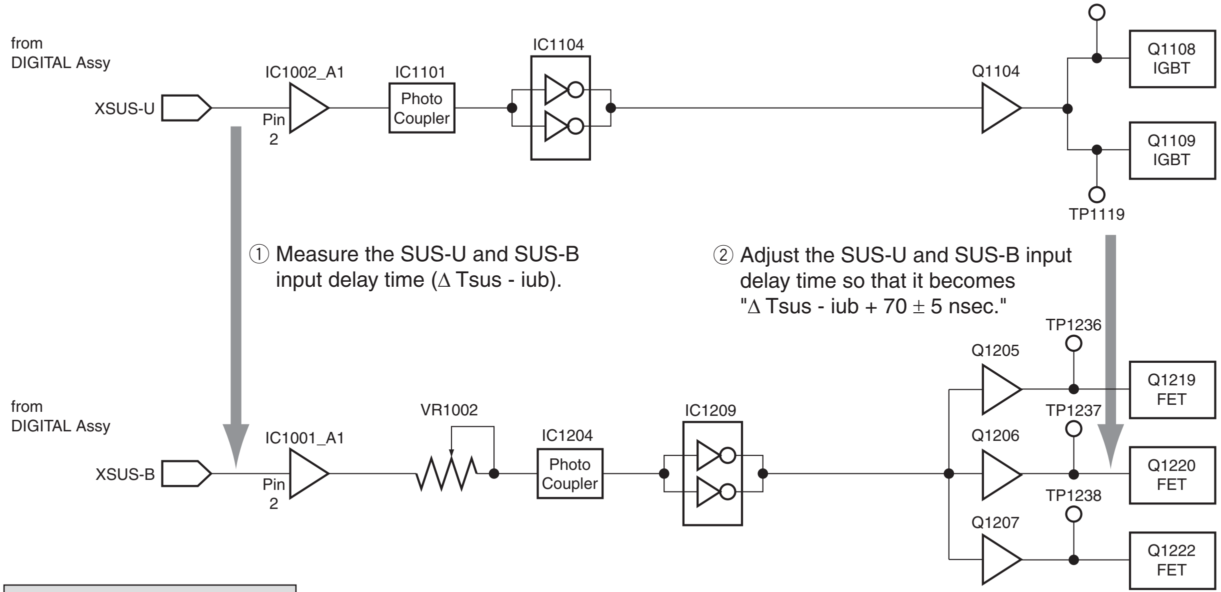

SUS-D pulse width
Tsus - D
50 % of the crest value
50 % of the crest value
SUS-D signal
(input to the DRIVE Assy)
SUS-D pulse width
Tsus - Dg
50 % of the crest value
50 % of the crest value
SUS-D signal
(input to the gate terminal of Q2112)

**SUS-D pulse width: Tsus - Dg**
Adjust so that "Tsus - Dg = Tsus - D ± 5 nsec," using the variable control shown in the table below:

| Assy | VR |
|---|---|
| Y DRIVE Assy | VR2001 |

## SUS-B ADJUSTMENT

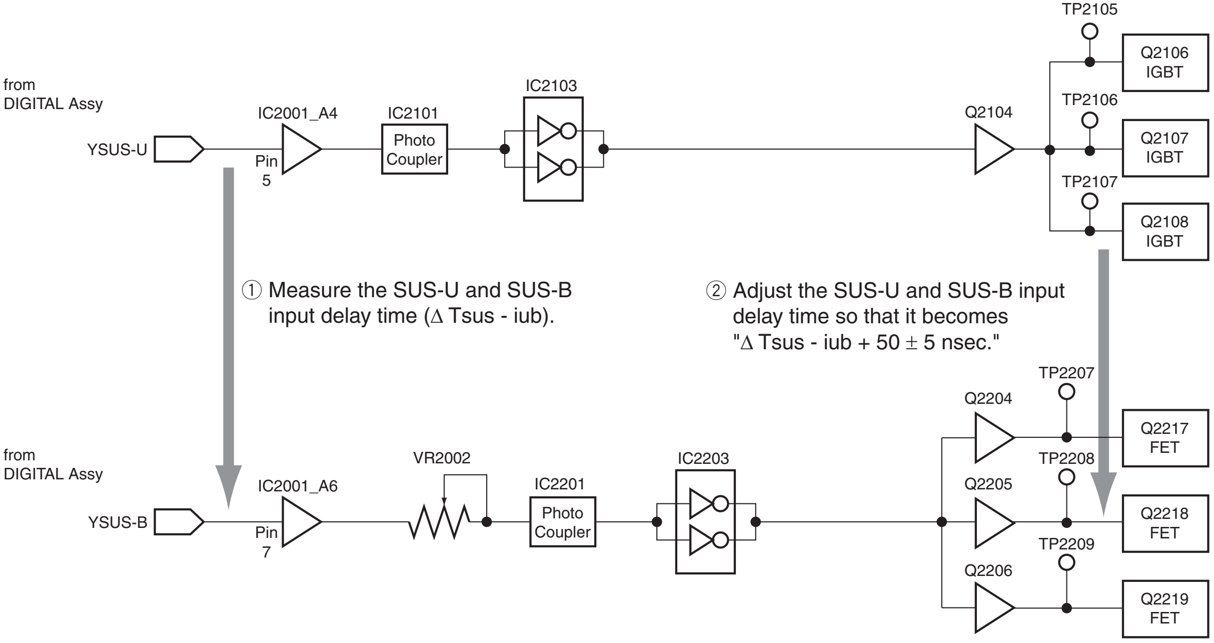
### X DRIVE Assy


from
DIGITAL Assy
XSUS-U
IC1002_A1
Pin
2
IC1101
Photo
Coupler
IC1104
Q1104
TP1118
Q1108
IGBT
Q1109
IGBT
TP1119
from
DIGITAL Assy
XSUS-B
IC1001_A1
Pin
2
VR1002
IC1204
Photo
Coupler
IC1209
Q1205
Q1206
Q1207
TP1236
TP1237
TP1238
Q1219
FET
Q1220
FET
Q1222
FET

① Measure the SUS-U and SUS-B input delay time (Δ Tsus - iub).

② Adjust the SUS-U and SUS-B input delay time so that it becomes "Δ Tsus - iub + 70 ± 5 nsec."

### Y DRIVE Assy


from
DIGITAL Assy
YSUS-U
IC2001_A4
Pin
5
IC2101
Photo
Coupler
IC2103
Q2104
TP2105
TP2106
TP2107
Q2106
IGBT
Q2107
IGBT
Q2108
IGBT
from
DIGITAL Assy
YSUS-B
IC2001_A6
Pin
7
VR2002
IC2201
Photo
Coupler
IC2203
Q2204
Q2205
Q2206
TP2207
TP2208
TP2209
Q2217
FET
Q2218
FET
Q2219
FET

① Measure the SUS-U and SUS-B input delay time (Δ Tsus - iub).

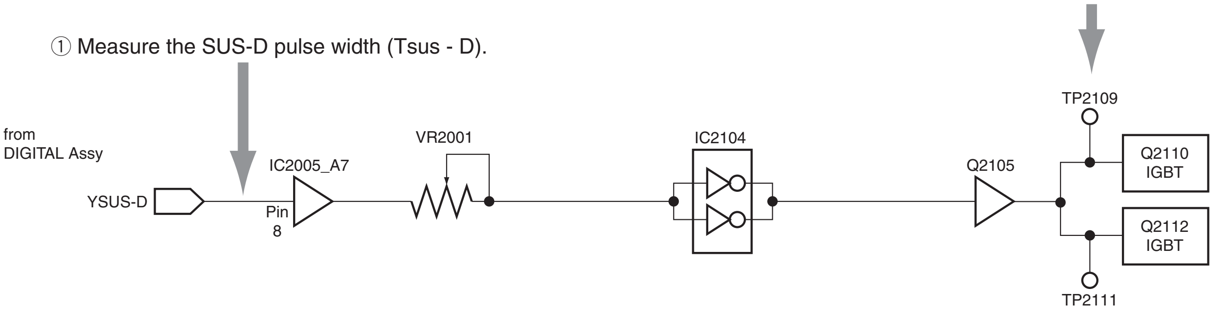
② Adjust the SUS-U and SUS-B input delay time so that it becomes "Δ Tsus - iub + 50 ± 5 nsec."

## SUS-D ADJUSTMENT

### Y DRIVE Assy

② Adjust the pulse width (Tsus - Dg) of the SUS-D input signal so that it becomes "Tsus-D ± 5 nsec."

① Measure the SUS-D pulse width (Tsus - D).


from
DIGITAL Assy
YSUS-D
IC2005_A7
Pin
8
VR2001
IC2104
Q2105
TP2109
Q2110
IGBT
Q2112
IGBT
TP2111

# 9. RS-232C

## 9.1 OUTLINE OF RS-232C COMMAND

### 9.1.1 PREPARED TOOLS

It is necessary to prepare the following one to use 232C command.

- PC
- Application for control
- 232C cable (straight)

∗ The setting of the Com port cannot be communicated if it doesn't do correctly.
(Please follow a set explanation of PC in the Com port)

### 9.1.2 USING RS-232C COMMANDS

Individual ports are provided for RS-232C and SR+ connectors with this model. Therefore, unlike the case of previous models, which required switching of exclusive operation between these connectors on the Integrator menu, switching is no longer required.

# 9.2 LIST OF RS-232C COMMANDS

RS-232C commands can be used in Service Factory mode. Before using RS-232C commands, it is necessary to change the factory presetting.
See "9.1 OUTLINE OF RS-232C COMMAND".
[Note ; If you want to see version infomation (ex. QS1, QSE, Factory, Menu), Please see 10 seconds after starting.]

## RS-232C command list

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| A | | | | | | | |
| ABL | *** | Adjusting the upper limit of the power | ● | | Mod | ● | |
| AMT | S00 | Audio mute OFF | | ● | | | |
| | S01 | Audio mute ON | | ● | | | |
| AP0 | S** | ADDRESS L1, L2 setting | ● | | Mod | ● | UP*/DN* is not effective |
| AP1 | S** | ADDRESS L3, L4 setting | ● | | Mod | ● | UP*/DN* is not effective |
| APN | *** | 1V average pulse number setting | ● | | Mod | ● | UP*/DN* is not effective |
| APW | S00 | APL interlocked function: OFF | ● | | | ● | |
| | S01 | APL interlocked function: ON | ● | | | ● | |
| | S02 | APL interlocked WB: ON / APL interlocked $\gamma$ : OFF | ● | | | ● | |
| | S03 | APL interlocked WB: OFF / APL interlocked $\gamma$ : ON | ● | | | ● | |
| B | | | | | | | |
| BCP | | Copying the backup data in the EEPROM | ● | | | ● | |
| BHI | *** | User white balance : BLUE highlight | ● | | | | |
| BLW | *** | User white balance : BLUE lowlight | ● | | | | |
| BRT | *** | User brightness | ● | | | | |
| BSM | S00 | After image/Burning safe mode: OFF | ● | | | | |
| | S01 | After image/Burning safe mode: ON | ● | | | | |
| C | | | | | | | |
| CBU | | Clearing backup data of EEPROM | ● | | | ● | |
| CHM | | Clearing data of the hour meter | ● | | | ● | |
| CHN | FWD | Changing tuner preset channel (1 step forward) | | ● | | | |
| | REV | Changing tuner preset channel (1 step reverse) | | ● | | | |
| CNT | *** | User contrast | ● | | | | |
| CMT | | Clearing data of the maximum temperature | ● | | | ● | |
| CPC | | Clearing power-on count data | ● | | | ● | |
| CPD | | Clearing power-down histrory | ● | | | ● | |
| CPM | | Clearing data of the pulse meter | ● | | | ● | |
| CSD | | Clearing shutdown history | ● | | | ● | |
| D | | | | | | | |
| DIZ | S00 | Dither/L dither OFF & noise OFF | ● | | | ● | |
| | S01 | Dither/L dither ON & noise ON | ● | | | ● | |
| | S02 | Dither/L dither OFF & noise ON | ● | | | ● | |
| | S03 | Dither/L dither ON & noise OFF | ● | | | ● | |
| DRV | S00 | Panel drive power OFF | ● | | | | |
| | S01 | Panel drive power ON | ● | | | | |
| DW* | | To subtract *** to the adjustment value (*** = 000 to 999, designated by a function command) | | ● | | | |
| F | | | | | | | |
| FAJ | | Determining the flag of the DIGITAL Assy adjustment in "adjustment is completed" | ● | | | ● | |
| FAN | | Factory mode off | ● | ● | | ● | |
| FAY | | Factory mode on | ● | ● | | | |
| FST | | Set each memory setting of MTB side to the shipment state. | | ● | | ● | |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **G** | | | | | | | |
| GHI | *** | User white balance : GREEN highlight | ● | | | | |
| GLW | *** | User white balance : GREEN low light | ● | | | | |
| **I** | | | | | | | |
| INA | *** | Switching the terrestrial analog signal (***: channel number) | | ● | Main | | |
| | | Switching the terrestrial analog signal | | ● | Main | | |
| INC | *** | Switching the terrestrial digital signal (Step-upD and RegularD only) (***:channel number) | | ● | Main | | |
| | | Switching the terrestrial digital signal (Step-upD and RegularD only) | | ● | Main | | |
| INH | | Switching the HomeGallery | | ● | | | |
| INP | S01 | Input switch: INPUT 1 | | ● | Main | | |
| | S02 | Input switch: INPUT 2 | | ● | Main | | |
| | S03 | Input switch: INPUT 3 | | ● | Main | | |
| | S04 | Input switch: INPUT 4 | | ● | Main | | |
| | S05 | Input switch: INPUT 5 | | ● | Main | | |
| | S06 | Input switch: INPUT 6 (PC) | | ● | Main | | |
| **M** | | | | | | | |
| MKC | S00 | Panel mask indication off | ● | | Mod | | |
| | S01 | H ramp (slant 1) M | ● | | Mod | ● | |
| | S02 | H ramp (slant 4) M | ● | | Mod | ● | |
| | S03 | Slanting ramp M | ● | | Mod | ● | |
| | S04 | 30 for aging | ● | | Mod | ● | |
| | S05 | 05 for aging | ● | | Mod | ● | |
| | S06 | Erasing afterimage 1 | ● | | Mod | ● | |
| | S07 | Erasing afterimage 2 (RGB: zigzag, V: reverse) | ● | | Mod | ● | |
| | S08 | White (change in luminance level) | ● | | Mod | ● | |
| | S09 | PEAK SEEK RASTER | ● | | Mod | ● | |
| | S10 | For engineering use | ● | | Mod | ● | |
| | S11 | Green vertical line scroll | ● | | Mod | ● | |
| | S12 | Green horizontal line scroll | ● | | Mod | ● | |
| | S13 | Vertical ramp vertical scroll (white) | ● | | Mod | ● | |
| | S14 | Vertical ramp vertical scroll (green) | ● | | Mod | ● | |
| | S15 | Horizontal ramp horizontal scroll (white) | ● | | Mod | ● | |
| | S16 | Horizontal ramp horizontal scroll (green) | ● | | Mod | ● | |
| | S17 | Cross hatch + window | ● | | Mod | ● | |
| MKS | S00 | MASK off | ● | | Mod | | |
| | S01 | H ramp (slant 1) | ● | | Mod | ● | |
| | S02 | H ramp (slant 4) | ● | | Mod | ● | |
| | S03 | V ramp (slant 1) | ● | | Mod | ● | |
| | S04 | Slanting ramp | ● | | Mod | ● | |
| | S05 | Window (Hi= 870, Lo= 102) | ● | | Mod | ● | |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **M** | | | | | | | |
| MKS | S06 | Window (Hi= 1023, Lo= 102) | ● | | Mod | ● | |
| | S07 | Window (Hi= 1023, Lo=000) | ● | | Mod | ● | |
| | S08 | Window (Hi= 1023) 4 % | ● | | Mod | ● | |
| | S09 | Window (Hi= 1023) 1.25 % | ● | | Mod | ● | |
| | S10 | Window (1/7 LINE) | ● | | Mod | ● | |
| | S11 | STRIPE (MGT/GRN) | ● | | Mod | ● | |
| | S12 | STRIPE (GRN/MGT) | ● | | Mod | ● | |
| | S13 | B & W, checker (1 line) | ● | | Mod | ● | |
| | S14 | B & W, checker (2 lines) | ● | | Mod | ● | |
| | S15 | B & W, checker (4 lines) | ● | | Mod | ● | |
| | S16 | B & W, checker (8 lines) | ● | | Mod | ● | |
| | S17 | COLOR BAR | ● | | Mod | ● | |
| | S18 | Slanting lines | ● | | Mod | ● | |
| | S19 | Red & black, checker (1 line) | ● | | Mod | ● | |
| | S20 | Red & black, checker (2 lines) | ● | | Mod | ● | |
| | S21 | Red & black, checker (4 lines) | ● | | Mod | ● | |
| | S22 | Red & black, checker (8 lines) | ● | | Mod | ● | |
| | S23 | Erasing afterimage (RGB: zigzag, V: reverse) | ● | | Mod | ● | |
| | S24 | SUS 2000 pulses (black raster) | ● | | Mod | ● | |
| | S25 | 1 for perfect linear | ● | | Mod | ● | |
| | S26 | 2 for perfect linear | ● | | Mod | ● | |
| | S27 | 3 for perfect linear | ● | | Mod | ● | |
| | S28 | 4 for perfect linear | ● | | Mod | ● | |
| | S29 | RGB checker 1 | ● | | Mod | ● | |
| | S30 | RGB checker 2 | ● | | Mod | ● | |
| | S31 | Window RED (RED=1023) | ● | | Mod | ● | |
| | S32 | Window GREEN (GREEN=1023) | ● | | Mod | ● | |
| | S33 | Window BLUE (BLUE=1023) | ● | | Mod | ● | |
| | S34 | Even line horizontal stripes | ● | | Mod | ● | |
| | S35 | Odd line horizontal stripes | ● | | Mod | ● | |
| | S36 | Afterimage check 1 | ● | | Mod | ● | |
| | S37 | Afterimage check 2 | ● | | Mod | ● | |
| | S38 | Afterimage check 3 | ● | | Mod | ● | |
| | S39 | Afterimage check 4 | ● | | Mod | ● | |
| | S40 | Red single-color slanting ramp | ● | | Mod | ● | |
| | S41 | GREEN single-color slanting ramp | ● | | Mod | ● | |
| | S42 | BLUE single-color slanting ramp | ● | | Mod | ● | |
| | S43 | Black back acnode | ● | | Mod | ● | |
| | S44 | Horizontal stripes every eight white lines | ● | | Mod | ● | |
| | S45 | 5 for perfect linear | ● | | Mod | ● | |
| | S46 | 6 for perfect linear | ● | | Mod | ● | |
| | S47 | 7 for perfect linear | ● | | Mod | ● | |
| | S48 | 8 for perfect linear | ● | | Mod | ● | |
| | S49 | Mask for ABL adjustment | ● | | Mod | ● | |
| | S51 | Raster - White | ● | | Mod | ● | |
| | S52 | Raster - Red | ● | | Mod | ● | |
| | S53 | Raster - Green | ● | | Mod | ● | |
| | S54 | Raster - Blue | ● | | Mod | ● | |
| | S55 | Raster - Black | ● | | Mod | ● | |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| MKS | S56 | Raster - Cyan | ● | | Mod | ● | |
| | S57 | Raster - Magenta | ● | | Mod | ● | |
| | S58 | Raster - Yellow | ● | | Mod | ● | |
| | S59 | Raster - Red 2 | ● | | Mod | ● | |
| | S60 | Raster - Green 2 | ● | | Mod | ● | |
| | S61 | Raster - Blue 2 | ● | | Mod | ● | |
| | S62 | Raster - Magenta 2 | ● | | Mod | ● | |
| | S63 | Raster - Red 624 | ● | | Mod | ● | |
| | S64 | Raster - Green 624 | ● | | Mod | ● | |
| | S65 | Raster - Blue 624 | ● | | Mod | ● | |
| | S66 | Raster - Gray 624 | ● | | Mod | ● | |
| | S67 | Raster - Beige | ● | | Mod | ● | |
| | S68 | Raster - Blue 3 | ● | | Mod | ● | |
| | S69 | Raster - Light blue | ● | | Mod | ● | |
| | S70 | Raster - Pale purple | ● | | Mod | ● | |
| | S71 | Raster - Yellow egg color | ● | | Mod | ● | |
| | S72 | Raster - Pale purple 2 | ● | | Mod | ● | |
| | S73 | Raster - Magenta 70 | ● | | Mod | ● | |
| | S74 | Raster - Gray 70 | ● | | Mod | ● | |
| | S75 | Raster - Gray 307 | ● | | Mod | ● | |
| MST | S00 | Display one screen | | ● | | | |
| | S01 | PsideP (Main size: normal) | | ● | | | |
| | S02 | PinP (Right down) | | ● | | | |
| | S03 | PinP (Right up) | | ● | | | |
| | S04 | PinP (Left up) | | ● | | | |
| | S05 | PinP (Left down) | | ● | | | |
| | S08 | SWAP (Exchanging sub-screen) | | ● | | | |
| **N** | | | | | | | |
| NGP | S00 | Negative positive inversion: OFF | ● | | | ● | |
| | S01 | Negative positive inversion: ON | ● | | | ● | |
| **O** | | | | | | | |
| OSD | S00 | Turning OSD setting to off | | ● | Main | | |
| | S01 | Turning OSD setting to on | | ● | Main | | |
| **P** | | | | | | | |
| PAV | S** | Switching panel functions interlocked with the AV selection | ● | | | | |
| PBH | *** | Panel white balance adjustment - Blue highlight | ● | | Mod | ● | |
| PBL | *** | Panel white balance adjustment - Blue low light | ● | | Mod | ● | |
| PDM | S00 | Passing PD signals to the POWER SUPPLY Unit => Power-down | ● | | | | |
| | S01 | Not passing PD signals to the POWER SUPPLY Unit => No power-down | ● | | | | |
| PFL | S00 | Peripheral luminance correction: OFF | ● | | | ● | |
| | S01 | Peripheral luminance correction: ON fixed | ● | | | ● | |
| | S02 | Peripheral luminance correction: APL interlocked ON | ● | | | ● | |
| PES | S00 | Set the power consumption setting of the panel side to OFF | ● | | | | |
| | S01 | Set the power consumption setting of the panel side to Energy saving 1 | ● | | | | |
| | S02 | Set the power consumption setting of the panel side to Energy saving 2 | ● | | | | |
| PFN | | Factory mode: off | ● | | | ● | |
| PFS | | Setup at shipment | ● | | | ● | |
| PFY | | Factory mode: on | ● | | | ● | |
| PGB | S** | Independent gamma Blue | ● | | | | |
| PGG | S** | Independent gamma Green | ● | | | | |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **P** | | | | | | | |
| PGR | S** | Independent gamma Red | ● | | | | |
| PGH | *** | Panel white balance adjustment - Green highlight | ● | | Mod | ● | |
| PGL | *** | Panel white balance adjustment - Green low light | ● | | Mod | ● | |
| PMT | S00 | Canceling panel muting | ● | | | | |
| | S01 | Panel muting | ● | | | | |
| PKD | S00 | Peak luminance detection: OFF | ● | | | ● | |
| | S01 | Peak luminance detection: ON | ● | | | ● | |
| PKL | S** | Panel brightness setting | ● | | | | |
| POF | | Power OFF | ● | ● | Main | | |
| PON | | Power on | ● | ● | Main | | |
| PPT | S00 | Panel protection: off | ● | | | ● | |
| | S01 | Panel protection: on | ● | | | ● | |
| PRH | *** | Panel white balance adjustment - Red highlight | ● | | Mod | ● | |
| PRL | *** | Panel white balance adjustment - Red low light | ● | | Mod | ● | |
| PUC | S00 | Pure cinema: off | | ● | Main | ● | |
| | S01 | Pure cinema: Standard | | ● | Main | ● | |
| | S02 | Pure cinema: Advance | | ● | Main | ● | |
| | S03 | Pure cinema: Smooth | | ● | Main | ● | |
| **Q** | | | | | | | |
| QAJ | | Acquiring various adjustment values | ● | | | | |
| QMT | | Acquiring temperature of MTB side and Fan speed | | ● | | | |
| QNG | | Acquiring shutdown information of MTB side | | ● | | | |
| QPD | | Acquiring logs of power-down points | ● | | | | |
| QPM | | Acquiring data of the pulse meter | ● | | | | |
| QPW | | Acquiring panel white balance adjustment values | ● | | | | |
| QS1 | | Acquiring unit data, such as the software version common to all models, regardless of destination | ● | ● | | | |
| QS2 | | Acquiring data on the status of the unit, such as temperature | ● | | | | |
| QS3 | | Each information output for panel | ● | | | | |
| QSE | | Acquiring unit data, such as the software version common to all models, regardless of destination | | ● | | | |
| QSD | | Acquiring data on shutdown | ● | | | | |
| QSI | | Acquiring data related with signals | ● | | | | |
| QSP | | Acquiring the software sub-version of the microcomputer at panel side | ● | | | | |
| **R** | | | | | | | |
| RBL | S** | Setting of blue level for panel degradation correction | ● | | Mod | ● | |
| RGL | S** | Setting of green level for panel degradation correction | ● | | Mod | ● | |
| RHI | *** | User white balance - Red highlight | ● | | | | |
| RLS | S** | Room light sensor operation at panel side | ● | | | | |
| RLW | *** | User white balance - Red low light | ● | | | | |
| RRL | S** | Setting of red level for panel degradation correction | ● | | Mod | ● | |
| R1K | *** | RESET1ST_KSB adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| R2K | *** | RESET2ND_KSB adjustment | ● | | Mod | ● | UP*/DN* is not effective |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **S** | | | | | | | |
| SDM | S00 | Shutdown enabled | ● | | | | |
| | S01 | Shutdown prohibited | ● | | | | |
| SFR | S01 | Measures against AM radio noise - Pattern 1 | ● | | Mod | ● | |
| | S02 | Measures against AM radio noise - Pattern 2 | ● | | Mod | ● | |
| | S03 | Measures against AM radio noise - Pattern 3 | ● | | Mod | ● | |
| | S04 | Measures against AM radio noise - Pattern 4 | ● | | Mod | ● | |
| | S05 | Measures against AM radio noise - Pattern 5 | ● | | Mod | ● | |
| | S06 | Measures against AM radio noise - Pattern 6 | ● | | Mod | ● | |
| | S07 | Measures against AM radio noise - Pattern 7 | ● | | Mod | ● | |
| | S08 | Measures against AM radio noise - Pattern 8 | ● | | Mod | ● | |
| SKM | S00 | STREAKING correction OFF | ● | | Mod | ● | |
| | S01 | STREAKING correction mode 1 | ● | | Mod | ● | |
| | S02 | STREAKING correction mode 2 | ● | | Mod | ● | |
| | S03 | STREAKING correction mode 3 | ● | | Mod | ● | |
| | S04 | STREAKING correction mode 4 | ● | | Mod | ● | |
| | S05 | STREAKING correction mode 5 | ● | | Mod | ● | |
| | S06 | STREAKING correction mode 6 | ● | | Mod | ● | |
| | S07 | STREAKING correction mode 7 | ● | | Mod | ● | |
| | S08 | STREAKING correction mode 8 | ● | | Mod | ● | |
| SMC | S01 | Smooth clear drive OFF | ● | | | ● | |
| | S02 | Smooth clear drive ON | ● | | | ● | |
| SML | *** | Adjustment of the side mask level | | ● | Main | ● | |
| SMM | S** | Setting of the effective area during streaking correction | ● | | | ● | |
| SN0 | *** | Setting of the serial No. 0 (panel) | ● | | Mod | ● | |
| SN1 | *** | Setting of the serial No. 1 (panel) | ● | | Mod | ● | |
| SN2 | *** | Setting of the serial No. 2 (panel) | ● | | Mod | ● | |
| SN3 | *** | Setting of the serial No. 3 (panel) | ● | | Mod | ● | |
| SN4 | *** | Setting of the serial No. 4 (panel) | ● | | Mod | ● | |
| SQM | S01 | VIDEO sequence setting | ● | | | | |
| | S02 | PC sequence setting | ● | | | | |
| SSM | S01 | SSCG OFF | ● | | | ● | |
| | S02 | SSCG ON | ● | | | ● | |
| SZM | S00 | Setting the screen size to Dot by Dot | | ● | Main | | |
| | S01 | Setting the screen size to 4 :3 | | ● | Main | | |
| | S02 | Setting the screen size to FULL | | ● | Main | | |
| | S03 | Setting the screen size to ZOOM | | ● | Main | | |
| | S04 | Setting the screen size to CINEMA | | ● | Main | | |
| | S05 | Setting the screen size to WIDE | | ● | Main | | |
| | S06 | Setting the screen size to FULL 14 : 9 | | ● | Main | | |
| | S07 | Setting the screen size to CINEMA 14 : 9 | | ● | Main | | |
| **T** | | | | | | | |
| THS | S00 | Theater port interlock operation OFF | ● | | | | |
| | S01 | Theater port interlock operation ON | ● | | | | |
| **U** | | | | | | | |
| UAJ | | Determining the flag for the DIGITAL Assy adjustment in "not adjusted" | ● | | | | |
| UP* | | To add *** to the adjustment value (*** = 000 to 999, designated by a function command) | | ● | | | |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **V** | | | | | | | |
| VFQ | S01 | Setting the frequency in Mask mode to VD-48 Hz | ● | | Mod | ● | |
| | S02 | Setting the frequency in Mask mode to VD-50 Hz | ● | | Mod | ● | |
| | S03 | Setting the frequency in Mask mode to VD-60 Hz | ● | | Mod | ● | |
| | S05 | Setting the frequency in Mask mode to VD-72 Hz | ● | | Mod | ● | |
| | S06 | Setting the frequency in Mask mode to VD-75 Hz | ● | | Mod | ● | |
| | S13 | Setting the frequency in Mask mode to PC-60 Hz | ● | | Mod | ● | |
| | S22 | Setting the frequency in Mask mode to VD-50 Hz (nonstandard) | ● | | Mod | ● | |
| | S23 | Setting the frequency in Mask mode to VD-60 Hz (nonstandard) | ● | | Mod | ● | |
| | S25 | Setting the frequency in Mask mode to VD-72 Hz (nonstandard) | ● | | Mod | ● | |
| | S26 | Setting the frequency in Mask mode to VD-75 Hz (nonstandard) | ● | | Mod | ● | |
| VOF | *** | Adjustment of the reference value of Vofs voltage | ● | | | ● | |
| VOL | UP*,<br>DW*,<br>*** | To adjust the volume (to be used in combination with UP*/DW*) | | ● | | | |
| VRP | *** | Adjustment of the reference value of Vrst-p voltage | ● | | | ● | |
| VSU | *** | Adjustment of the reference value of Vsus voltage | ● | | | ● | |
| VX1 | *** | Adjustment of the reference value of Vxpofs1 voltage | ● | | Mod | ● | UP*/DN* is not effective |
| VX2 | *** | Adjustment of the reference value of Vxpofs2 voltage | ● | | Mod | ● | UP*/DN* is not effective |
| VY1 | *** | Adjustment of the reference value of Vyknofs1, 2 voltage | ● | | Mod | ● | UP*/DN* is not effective |
| VY3 | *** | Adjustment of the reference value of Vyknofs3 voltage | ● | | Mod | ● | UP*/DN* is not effective |
| VY4 | *** | Adjustment of the reference value of Vyknofs4 voltage | ● | | Mod | ● | UP*/DN* is not effective |
| **W** | | | | | | | |
| WBI | S00 | Panel WB standard output mode: off | ● | | | ● | |
| | S01 | Panel WB standard output mode: on | ● | | | ● | |
| **X** | | | | | | | |
| X1B | *** | XSUS_1ST_B adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| X3B | *** | XSUS_3RD_B adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| XSB | *** | XSUS_B adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| **Y** | | | | | | | |
| Y1K | *** | YSTL_1SF_KSB adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| Y1Z | *** | YSTL_1SF_HZ adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| Y2B | *** | YSUS_2ND_B adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| Y2K | *** | YSTL_2SF_KSB adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| Y2Z | *** | YSTL_2SF_HZ adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| YNK | *** | YSTL_FMR_KSB adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| YNZ | *** | YSTL_FMR_HZ adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| YTK | *** | YSTL_KSB adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| YTZ | *** | YSTL_HZ adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| YSB | *** | Y-SUS-B adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| **Z** | | | | | | | |
| ZME | | Initializing the video EEPROM data | | ● | | ● | |
| ZPR | | Initializing the setting data to which no adjustment command is provided | ● | | | ● | |

# 9.3 DETAILS OF EACH COMMANDS

## 9.3.1 QS1 (PANEL STATUS)

Model information and version information are returned.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QS1] | Every Time | Output of status | Return data: 3 (ECO) + 84 (DATA) + 2 (CS) = 89 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QS1 (Fixed) |
| 1 | Resolution/size | 1 byte | 6 |
| 2 | Panel Generation | 1 byte | 8 |
| 3 | Destination | 1 byte | * |
| 4 | Grade | 1 byte | * |
| 5 | Panel Product Form | 1 byte | B |
| 6 | Boot version of Module microcomputer | 3 byte | 05H |
| 7 | Program version of Module microcomputer | 8 byte | – 01A |
| 8 | Boot version of Sequence processor | 3 byte | 07X |
| 9 | Program version of Sequence processor | 8 byte | – 01W |
| 10 | Panel information | 8 byte | G8_50X_4 |
| 11 | Reserved (*) | 8 byte | ******** |
| 12 | , (comma) | 1 byte | |
| 13 | MTB information 1 (Generation) | 1 byte | 8 |
| 14 | MTB information 2 (Regional model) | 1 byte | E |
| 15 | MTB information 3 (Grade) | 1 byte | R |
| 16 | MTB information 4 (System Type) | 1 byte | B |
| 17 | Common version for IF microcomputer | 8 byte | – 06A |
| 18 | Boot version of IF microcomputer | 4 byte | 01A |
| 19 | Common version for Main microcomputer | 8 byte | – 27E |
| 20 | Boot version of Main microcomputer | 4 byte | – 03E |
| 21 | Common version for Multi-processor | 8 byte | – 09H |
| 22 | Boot version of Multi-processor | 4 byte | 09A |
| 23 | Check Sum | 2 byte | FF |

| 13: MTB/MB Generation | |
|---|---|
| 6 | G6 |
| 7 | G7 |
| 8 | G8 |
| 9 | G9 |
| 0 | G10 |

| 14: Regional Model | |
|---|---|
| J | JP |
| A | US |
| E | EU |
| G | GE |
| C | CH |
| U | AU |

| 15: MTB/MB Grade | |
|---|---|
| H | Elite/XDA/Step-upD |
| T | Step-upA/XG/XC/Regular (US) |
| B | Not used (For Future) |
| S | RegularD |
| R | RegularA |

| 16: MTB/MB Product Form | |
|---|---|
| S | System model |
| B | One body model (SX) |

| 1: Resolution/Inch Size | |
|---|---|
| 3 | 1024*768-42 |
| 4 | 1024*768-43 |
| 5 | 1280*768-50 |
| 6 | 1365*768-50 |
| 7 | 1365*768-60 |
| E | 1920*1080-42 |
| F | 1920*1080-50 |
| G | 1920*1080-60 |

| 2: Panel Generation | |
|---|---|
| 6 | G6 |
| 7 | G7 |
| 8 | G8 |
| 9 | G9 |
| 0 | G10 |

| 3: Destination | |
|---|---|
| * | Commonness |
| A | US (Reserved) |
| E | EU (Reserved) |
| J | Japan (Reserved) |

| 4: Grade | |
|---|---|
| * | Commonness |
| Z | Evaluation |

| 5: Panel Product Form | |
|---|---|
| S | System model |
| B | All-in-one design TV |
| M | Monitor |
| D | Standard module |
| E | Simple module |

| 10: Panel Information | | |
|---|---|---|
| 1 to 3rd byte | G8_ | Generation information (+ under bar) |
| 4 to 5th byte | 42 | 42 inch |
| | 50 | 50 inch |
| | 60 | 60 inch |
| | ** | PSIZE information and SQ_LSI version mismatching (version mismatching at SD) |
| 6th byte | F | FHD |
| | X | XGA |
| | * | Model information and SQ_LSI version mismatching (version mismatching at SD) |
| 7th byte | _ | Under bar |
| 8th byte | 6 | 2nd PLANT |
| | 4 | 1st PLANT |
| | * | PLANT information and SQ_LSI version mismatching (version mismatching at SD) |
| | ‘ | Others |

## 9.3.2 QS2 (PANEL OPERATION DATA)

The command QS2 is for acquiring data on the panel's operational information.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QS2] | All operations | To acquire data on operations of the panel | Return data: 3 (ECO) + 34 (DATA) + 2 (CS) = 39 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QS2 |
| 1 | Notification of mode shifting to STB | 1 byte | 1 |
| 2 | Flag for adjustment of the main unit | 1 byte | 0 |
| 3 | Flag for adjustment-data backup | 1 byte | 0 |
| 4 | "1st PD" data | 1 byte | 0 |
| 5 | "2nd PD" data | 1 byte | 0 |
| 6 | Reserved | 3 byte | *** |
| 7 | Temperature data (TEMP 1) | 3 byte | 128 |
| 8 | SD main data | 1 byte | 0 |
| 9 | SD sub data | 1 byte | 0 |
| 10 | Operation status induced by SD | 1 byte | 0 |
| 11 | Reserved | 3 byte | *** |
| 12 | HOUR METER | 8 byte | 00000259 |
| 13 | MASK indication | 1 byte | 0 |
| 14 | Still picture detection | 1 byte | 0 |
| 15 | SCAN protection detection | 1 byte | 0 |
| 16 | Panel crack detection | 1 byte | 0 |
| 17 | Address emergency detection | 1 byte | 0 |
| 18 | Reserved | 4 byte | **** |
| CS | | 2 byte | 4A |

| 1: Notification of mode shifting to Standby | |
|---|---|
| P | During power ON |
| 0 | Entering Standby mode failed |
| 1 | Entering Standby mode succeeded |

| 2: Adjustment of the main unit | |
|---|---|
| 0 | Adjustment completed |
| 1 | Adjustment not completed |

| 3: Adjustment-data backup | |
|---|---|
| 0 | With backup data |
| 1 | No data (default) |

| 4, 5: PD data | |
|---|---|
| 0 | No PD data |
| 1 | Not used |
| 2 | POWER |
| 3 | SCAN |
| 4 | SCN-5V |
| 5 | Y-DRV |
| 6 | Y-DCDC |
| 7 | Y-SUS |
| 8 | ADRS |
| 9 | X-DRV |
| A | X-DCDC |
| B | X-SUS |
| C | DIG-DCDC |
| D | Not used |
| E | Not used |
| F | UNKNOWN |

| 8: SD main data | |
|---|---|
| 0 | No SD |
| 1 | SQ_LSI |
| 2 | MDU-IIC |
| 3 | RST2 |
| 4 | TEMP |

| 9-1: SD-Sub (SQ_LSI) | |
|---|---|
| 0 | No SD-Sub data |
| 1 | Communication error |
| 2 | Drive stop |
| 3 | BUSY |
| 4 | Version mismatching (H/S) |
| 5 | Version mismatching (M/S) |

| 9-2: SD-Sub (IIC) | |
|---|---|
| 0 | No SD-Sub data |
| 1 | EEPROM |
| 2 | BACKUP |
| 3 | DAC1 |
| 4 | DAC2 |

| 9-3: SD-Sub (TEMP) | |
|---|---|
| 0 | No SD-Sub data |
| 1 | TEMP1 high temperature |
| 2 | TEMP1 low temperature |

| 10: Operation status induced by SD | |
|---|---|
| 0 | Normal |
| 1 | Relay-off completed |
| 2 | During warning indication |

| 13: MASK indication | |
|---|---|
| 0 | MASK-OFF |
| 1 | MASK-ON |

| 14 to 17: Details of power protection function | |
|---|---|
| 0 | Normal |
| 1 | At detection |

### 9.3.3 QS3 (OTHER DATA ON THE PANEL)

The command QS3 is for acquiring data on operational information of the panel.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QS3] | All operations | To acquire data on operations of the panel | Return data: 3 (ECO) + 58 (DATA) + 2 (CS) = 63 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QS3 |
| 1 | SERIAL | 15 byte | - - - - - - - - - - - - - - - |
| 2 | HOUR METER | 8 byte | 00000000 |
| 3 | TOTAL HR METER | 8 byte | 00000000 |
| 4 | PON COUNTER | 8 byte | 00000000 |
| 5 | TEMP1 acquisition (Temperature value) | 5 byte | +23.5 (*1) |
| 6 | TEMP0 acquisition (Temperature value) | 5 byte | +28.7 (*1) |
| 7 | MAX-TEMP1 acquisition (Temperature value) | 5 byte | +78.3 (*1) |
| 8 | Reserved | 4 byte | **** |
| CS | | 2 byte | 94 |

Note
(*1) : Centigrade scale

### 9.3.4 QAJ (PANEL ADJUSTMENT DATA)

The command QAJ is for acquiring the panel's factory-preset data.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QAJ] | All operations | To acquire data on operations of the panel | Return data: 3 (ECO) + 84 (DATA) + 2 (CS) = 89 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QAJ |
| 1 | V-SUS adjustment value | 3 byte | 128 |
| 2 | Vysnofs adjustment value | 3 byte | 128 |
| 3 | Vyprst adjustment value | 3 byte | 128 |
| 4 | Vxpofs1 adjustment value | 3 byte | 128 |
| 5 | Vxpofs2 adjustment value | 3 byte | 128 |
| 6 | Vyknofs1,2 adjustment value | 3 byte | 128 |
| 7 | Vyknofs3 adjustment value | 3 byte | 128 |
| 8 | Vyknofs4 adjustment value | 3 byte | 128 |
| 9 | R1K adjustment value | 3 byte | 128 |
| 10 | R2K adjustment value | 3 byte | 128 |
| 11 | Y1K adjustment value | 3 byte | 128 |
| 12 | Y1Z adjustment value | 3 byte | 128 |
| 13 | X1B adjustment value | 3 byte | 128 |
| 14 | Y2B adjustment value | 3 byte | 128 |
| 15 | X3B adjustment value | 3 byte | 128 |
| 16 | YSB adjustment value | 3 byte | 128 |
| 17 | XSB adjustment value | 3 byte | 128 |
| 18 | YTK adjustment value | 3 byte | 128 |
| 19 | YTZ adjustment value | 3 byte | 128 |
| 20 | Y2K adjustment value | 3 byte | 128 |
| 21 | Y2Z adjustment value | 3 byte | 128 |
| 22 | YNK adjustment value | 3 byte | 128 |
| 23 | YNZ adjustment value | 3 byte | 128 |
| 24 | R-REVISE setting value | 1 byte | 0 |
| 25 | G-REVISE setting value | 1 byte | 0 |
| 26 | B-REVISE setting value | 1 byte | 0 |
| 27 | ADDRESS 1, 2 setting value | 2 byte | 01 |
| 28 | ADDRESS 3, 4 setting value | 2 byte | 13 |
| 29 | ADDRESS 5, 6 setting value | 2 byte | 32 |
| 30 | ADDRESS 7, 8 setting value | 2 byte | 30 |
| 31 | Streaking correction | 1 byte | 1 |
| 32 | AM radio countermeasure | 1 byte | 1 |
| 33 | Reserved | 2 byte | ** |
| CS | | 2 byte | B7 |

| 31: Streaking correction | |
|---|---|
| 0 | OFF |
| n | n: 1 to 8 (Mode n) |

| 32: AM radio countermeasure | |
|---|---|
| n | n: 1 to 8 (SUS frequency n) |

## 9.3.5 QPW (VIDEO ADJUSTMENT DATA OF THE PANEL)

The command QPW is for acquiring the factory-preset data about the video of the panel.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QPW] | All operations | To acquire data on operations of the panel | Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QPW |
| 1 | Drive sequence | 3 byte | 60V |
| 2 | Standard/nonstandard | 1 byte | S |
| 3 | Type of ABL/WB tables | 2 byte | T2 |
| 4 | ABL adjustment value | 3 byte | 128 |
| 5 | R-HIGH adjustment value | 3 byte | 256 |
| 6 | G-HIGH adjustment value | 3 byte | 256 |
| 7 | B-HIGH adjustment value | 3 byte | 256 |
| 8 | R-LOW adjustment value | 3 byte | 512 |
| 9 | G-LOW adjustment value | 3 byte | 512 |
| 10 | B-LOW adjustment value | 3 byte | 512 |
| 11 | R gamma setting | 2 byte | 31 |
| 12 | G gamma setting | 2 byte | 10 |
| 13 | B gamma setting | 2 byte | 10 |
| 14 | Streaking correction | 1 byte | 1 |
| 15 | Center luminance correction | 1 byte | 0 |
| 16 | Reserved | 1 byte | * |
| 17 | WB interlocked with APL | 1 byte | 0 |
| 18 | Transition of protective operations | 1 byte | 0 |
| 19 | Reserved | 2 byte | ** |
| CS | | 2 byte | 37 |

| 1: Drive sequence | |
|---|---|
| 50V | Video 50 Hz |
| 60V | Video 60 Hz |
| 72V | Video 72 Hz |
| 75V | Video 75 Hz |
| 60P | PC 60 Hz |

| 2: Standard/ nonstandard | |
|---|---|
| S | Standard |
| N | Nonstandard |

| 3: Type of ABL/WB tables | |
|---|---|
| Tn | n: 1 to 4 |

| 11, 12, 13: RGB Gamma setting | |
|---|---|
| n | 00 to 31 |

| 15: Center luminance correction | |
|---|---|
| 0 | OFF |
| 1 | ON |
| 2 | ON (interlocked with APL) |

| 17: WB interlocked with APL | |
|---|---|
| 0 | OFF |
| 1 | ON |
| 2 | WB interlocked ON/γ OFF |
| 3 | WB interlocked OFF/γ ON |

| 18: Transition of brightness by protective operations | |
|---|---|
| 0 | Upper limit state for brightness |
| 1 | Brightness being reduced |
| 2 | Lower limit state for brightness |
| 3 | Brightness being increased |

## 9.3.6 QPM (PULSE METER VALUE)

The command QPM is for acquiring the accumulated number of pulses of the panel.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QPM] | All operations | To acquire data on operations of the panel | Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QPM |
| 1 | Pulse meter B 1 | 8 byte | 00000000 |
| 2 | Pulse meter B 2 | 8 byte | 00000000 |
| 3 | Pulse meter B 3 | 8 byte | 00000000 |
| 4 | Pulse meter B 4 | 8 byte | 00000000 |
| 5 | Pulse meter B 5 | 8 byte | 00000000 |
| CS | | 2 byte | E7 |

### 9.3.7 QPD (PD LOGS)

The command QPD is for acquiring data from the 8 latest power-down (PD) logs.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QPD] | All operations | To acquire data on the power-down logs | Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QPD |
| 1 | Latest "1st PD" data | 1 byte | A |
| 2 | Latest "2nd PD" data | 1 byte | 2 |
| 3 | Data from the hour meter for the latest PD | 8 byte | 00010020 |
| 4 | Second latest "1st PD" data | 1 byte | E |
| 5 | Second latest "2nd PD" data | 1 byte | 9 |
| 6 | Data from the hour meter for the second latest PD | 8 byte | 00008523 |
| 7 | Third latest "1st PD" data | 1 byte | 4 |
| 8 | Third latest "2nd PD" data | 1 byte | 3 |
| 9 | Data from the hour meter for the third latest PD | 8 byte | 00004335 |
| 10 | Fourth latest "1st PD" data | 1 byte | 2 |
| 11 | Fourth latest "2nd PD" data | 1 byte | 0 |
| 12 | Data from the hour meter for the fourth latest PD | 8 byte | 00000945 |
| 13 | Fifth latest "1st PD" data | 1 byte | 4 |
| 14 | Fifth latest "2nd PD" data | 1 byte | 0 |
| 15 | Data from the hour meter for the fifth latest PD | 8 byte | 00000715 |
| 16 | Sixth latest "1st PD" data | 1 byte | A |
| 17 | Sixth latest "2nd PD" data | 1 byte | 2 |
| 18 | Data from the hour meter for the sixth latest PD | 8 byte | 00000552 |
| 19 | Seventh latest "1st PD" data | 1 byte | A |
| 20 | Seventh latest "2nd PD" data | 1 byte | 0 |
| 21 | Data from the hour meter for the seventh latest PD | 8 byte | 00000213 |
| 22 | Eighth latest "1st PD" data | 1 byte | D |
| 23 | Eighth latest "2nd PD" data | 1 byte | 0 |
| 24 | Data from the hour meter for the eighth latest PD | 8 byte | 000001A7 |
| CS | | 2 byte | 27 |

| 1, 2, 4, 5: PD data | |
|---|---|
| 0 | No PD |
| 1 | Not used |
| 2 | P-POWER |
| 3 | SCAN |
| 4 | SCN-5V |
| 5 | Y-DRIVE |
| 6 | Y-DCDC |
| 7 | Y-SUS |
| 8 | Address |
| 9 | X-DRIVE |
| A | X-DCDC |
| B | X-SUS |
| C | DIG-DCDC |
| D | Not used |
| E | Not used |
| F | UNKNOWN |

### 9.3.8 QSD (SD LOGS)

The command QSD is for acquiring the data from the 8 latest shutdown (SD) logs.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QSD] | All operations | To acquire data on the shutdown logs | Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QSD |
| 1 | Latest SD data | 1 byte | 1 |
| 2 | Latest SD subcategory data | 1 byte | 0 |
| 3 | Data from the hour meter for the latest SD | 8 byte | 00752013 |
| 4 | Second latest SD data | 1 byte | 5 |
| 5 | Second latest SD subcategory data | 1 byte | 0 |
| 6 | Data from the hour meter for the second latest SD | 8 byte | 00495204 |
| 7 | Third latest SD data | 1 byte | 2 |
| 8 | Third latest SD subcategory data | 1 byte | 3 |
| 9 | Data from the hour meter for the third latest SD | 8 byte | 00100355 |
| 10 | Fourth latest SD data | 1 byte | 2 |
| 11 | Fourth latest SD subcategory data | 1 byte | 5 |
| 12 | Data from the hour meter for the fourth latest SD | 8 byte | 00075620 |
| 13 | Fifth latest SD data | 1 byte | 1 |
| 14 | Fifth latest SD subcategory data | 1 byte | 0 |
| 15 | Data from the hour meter for the fifth latest SD | 8 byte | 00000852 |
| 16 | Sixth latest SD data | 1 byte | 2 |
| 17 | Sixth latest SD subcategory data | 1 byte | 5 |
| 18 | Data from the hour meter for the sixth latest SD | 8 byte | 000000451 |
| 19 | Seventh latest SD data | 1 byte | 0 |
| 20 | Seventh latest SD subcategory data | 1 byte | 0 |
| 21 | Data from the hour meter for the seventh latest SD | 8 byte | 00000000 |
| 22 | Eighth latest SD data | 1 byte | 0 |
| 23 | Eighth latest SD subcategory data | 1 byte | 0 |
| 24 | Data from the hour meter for the eighth latest SD | 8 byte | 00000000 |
| CS | | 2 Byte | 7D |

| • SD data | |
|---|---|
| 0 | No SD |
| 1 | SQ_LSI |
| 2 | MDU-IIC |
| 3 | RST2 |
| 4 | TEMP |

| • SD subcategory (SQ_LSI) | |
|---|---|
| 0 | No SD-Sub data |
| 1 | Communication error |
| 2 | Drive stop |
| 3 | BUSY |
| 4 | Version mismatching (H/S) |
| 5 | Version mismatching (M/S) |

| • SD subcategory (MDU-IIC) | |
|---|---|
| 0 | No SD-Sub data |
| 1 | EEPROM |
| 2 | BACKUP |
| 3 | DAC1 |
| 4 | DAC2 |

| • SD subcategory (TEMP) | |
|---|---|
| 0 | No SD-Sub data |
| 1 | TEMP1 (high temperature) |
| 2 | TEMP1 (low temperature) |

## 9.3.9 QSE (DESTINATION PECULIAR INFORMATION)

Induce it peculiar, individual information is acquired.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QSE] | Every time | Output of status | |

| Order | Part | Data Arrangement | Data Length | Output Example |
|---|---|---|---|---|
| 0 | – | Received Command name | 3 byte | QSE |
| 1 | | Reserved | 4 byte | **** |
| 2 | | DTV Hardware Version | 4 byte | 0345 |
| 3 | | USER PASSWORD | 4 byte | 1234 |
| 4 | – | Check Sum | 2 byte | 03 |

## 9.3.10 QMT (TEMPERATURE / FAN ROTATION / ROOM LIGHT SENSOR)

Temperature information (TEMP2) / FAN rotation state / Room light sensor information on the MTB side is returned.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QMT] | Every time | Output of status | A/D value of MTB-side's temperature/FAN rotating status |

| Order | Part | Data Arrangement | Data Length | Output Example |
|---|---|---|---|---|
| 0 | – | Received Command name | 3 byte | QMT |
| 1 | MTB | A/D value of MTB-side temperature | 3 byte | 267 |
| 2 | | MTB-side FAN rotating speed (0: STOP, 1: LOW, 2: HIGH) | 1 byte | 1 |
| 3 | | A/D value of room light sensor | 3 byte | 009 |
| 4 | | Level of room light sensor (Value: 1 to 5) | 1 byte | 5 |

## 9.3.11 QNG (SHUTDOWN INFORMATION OF MTB)

MTB side's shutdown information is acquired.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QNG] | Every time | Output of status | |

| Order | Part | Data Arrangement | Data Length | Output Example |
|---|---|---|---|---|
| 0 | – | Received Command name | 3 byte | QNG |
| 1 | MTB | 1st latest NG No. | 1 byte | 0 |
| 2 | | Subcategory No. for the 1st latest NG. | 1 byte | 0 |
| 3 | | MTB hour meter for the 1st latest NG. | 7 byte | 0000000 |
| 4 | | Reserved | 3 byte | Fixed on 000 |
| 5 | | 2nd latest NG No. | 1 byte | 0 |
| 6 | | Subcategory No. for the 2nd latest NG. | 1 byte | 0 |
| 7 | | MTB hour meter for the 2nd latest NG. | 7 byte | 0000000 |
| 8 | | Reserved | 3 byte | Fixed on 000 |
| 9 | | 3rd latest NG No. | 1 byte | 0 |
| 10 | | Subcategory No. for the 3rd latest NG. | 1 byte | 0 |
| 11 | | MTB hour meter for the 3rd latest NG. | 7 byte | 0000000 |
| 12 | | Reserved | 3 byte | Fixed on 000 |
| : | | : | : | |
| 29 | | 8th latest NG No. | 1 byte | 0 |
| 30 | | Subcategory No. for the 8th latest NG. | 1 byte | 0 |
| 31 | | MTB hour meter for the 8th latest NG. | 7 byte | 0000000 |
| 32 | | Reserved | 3 byte | Fixed on 000 |
| 33 | – | Check Sum | 2 byte | 00 |

**< SD Information No. >**

| Frequency * | Part | Part | Remarks (Operation) |
|---|---|---|---|
| 5 | MTB part | Shutdown signal from audio amp. / short-circuit of speaker terminal | Shutdown after 30 seconds warning |
| 6 | | Failure of communication with Module microcomputer | Immediately Shutdown |
| 7 | | 3-wire serial communication of Main microcomputer | Go to No. 7 Subcategory Information |
| 8 | | IIC communication failure of MTB side | Go to No. 8 Subcategory Information |
| 9 | | Communication failure of Main microcomputer | Immediately Shutdown |
| 10(A) | | Failure of FAN | Go to No. 10 Subcategory Information |
| 11(B) | | Abnormally in high temperature | Shutdown after 30 seconds warning |
| 12(C) | | Failure of Digital Tuner | Go to No. 12 Subcategory Information |
| 13(D) | | Failure of Power Supply at MTB side | Go to No. 13 Subcategory Information |
| 15(F) | | Failure of Main EEPROM | Immediately Shutdown |

*: Indicates the frequency of Blue LED flashing when the shutdown is occurred.

### < No. 7 Subcategory Information on "Failure in 3-wire serial communication of Main microcomputer" >

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | Communication error of IF microcomputer | Shutdown |
| 2 | Communication error of sequence processor | Shutdown |

### < No. 8 Subcategory Information on "Failure in IIC communication of MTB side" >

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | Tuner 1 | Shutdown |
| 2 | MSP/MAP | Shutdown |
| 3 | AV Switch | Shutdown |
| 4 | RGB Switch | Shutdown |
| 5 | VDEC | Shutdown |
| 6 | VDEC-SDRAM | Shutdown |
| 7 | AD/PLL | Shutdown |
| 8 | HDMI | Shutdown |
| D | COFDEM | Shutdown |

### < No. 10 Subcategory Information on "Abnormally in FAN" >

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | FAN 1 | Shutdown |
| 2 | FAN 2 (FHD only) | Shutdown |

### < No. 12 Subcategory Information on "Failure in Digital Tuner" >

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | DTV starting failure | Communication stop |
| 2 | DTV Antenna | Warning indication |

### < No. 13 Subcategory Information on "Failure in Power supply at MTB side" >

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | RST 2 | Shutdown |
| 2 | RST 4 | Shutdown |

## 9.3.12 QSI (INPUT SIGNAL DATA)

The command QSI is for acquiring all data on input video signals.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QSI] | All operations | To acquire all data on input video signals | Return data: 3 (ECO) + 66 (DATA) + 2 (CS) = 71 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 Byte | QSI |
| 1 | Type of drive sequence | 3 Byte | 60V |
| 2 | Standard/nonstandard | 1 Byte | S |
| 3 | Type of ABL/WB tables | 2 Byte | T1 |
| 4 | Total value of PCN | 4 Byte | 0256 |
| 5 | Total value of PRH | 4 Byte | 0256 |
| 6 | Total value of PGH | 4 Byte | 0256 |
| 7 | Total value of PBH | 4 Byte | 0256 |
| 8 | Total value of PBR | 4 Byte | 0512 |
| 9 | Total value of PRL | 4 Byte | 0512 |
| 10 | Total value of PGL | 4 Byte | 0512 |
| 11 | Total value of PBL | 4 Byte | 0512 |
| 12 | Total value of ABL | 3 Byte | 128 |
| 13 | Detection of V frequency | 4 Byte | 6002 |
| 14 | Reserved | 1 Byte | * |
| 15 | Reserved | 3 Byte | *** |
| 16 | Obtained APL data | 4 Byte | 1023 |
| 17 | Number of SUS pulses | 4 Byte | 0457 |
| 18 | Result of detection of still picture | 1 Byte | 1 |
| 19 | Result of detection of cracking in the panel | 1 Byte | 1 |
| 20 | Result of detection for scanning protection | 1 Byte | 1 |
| 21 | Result of detection for external protection | 1 Byte | 1 |
| 22 | Transition of protection operation | 1 Byte | 0 |
| 23 | Reserved | 4 Byte | **** |
| CS | | 2 Byte | 27 |

## 9.3.13 DRV (PANEL DRIVE-POWER ON / OFF)

Drive ON/OFF: ON/OFF control of panel drive-power system

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [DRV+S00] | Every time | DRIVE OFF | At standby mode, when 10 seconds passed after issuing [DRV+S00], command becomes invalid. |
| [DRV+S01] | Every time | DRIVE ON (default) | |

Once the DRIVE OFF command is accepted, DRIVE OFF cannot be canceled by pressing the DRIVE OFF key again or by turning the unit off then back on with the STANDBY OFF/ON key.
To cancel DRIVE OFF, restart the unit by unplugging then again plugging in the power cord.

## 9.3.14 FAY / FAN (ADJ. COMMANDS PERMISSION / PROHIBITION)

The commands FAY/FAN are for prohibiting/permitting panel/MTB-adjustment commands.

| Command Format | Operation | | Remarks |
|---|---|---|---|
| | Effective Operation Modes | Control | |
| [FAY] | Normal operation mode while the power is on | Adjustment command is valid. | For details, refer to the section “6.1.3 FUNCTIONS WHEN RNTERING THE SERVICE FACTORY MODE.” |
| [FAN] | During FAY | Adjustment command is invalid. | |

## 9.3.15 FAJ / UAJ / CBU / BCP (BACKUP FUNCTION FOR ADJUSTMENT VALUE)

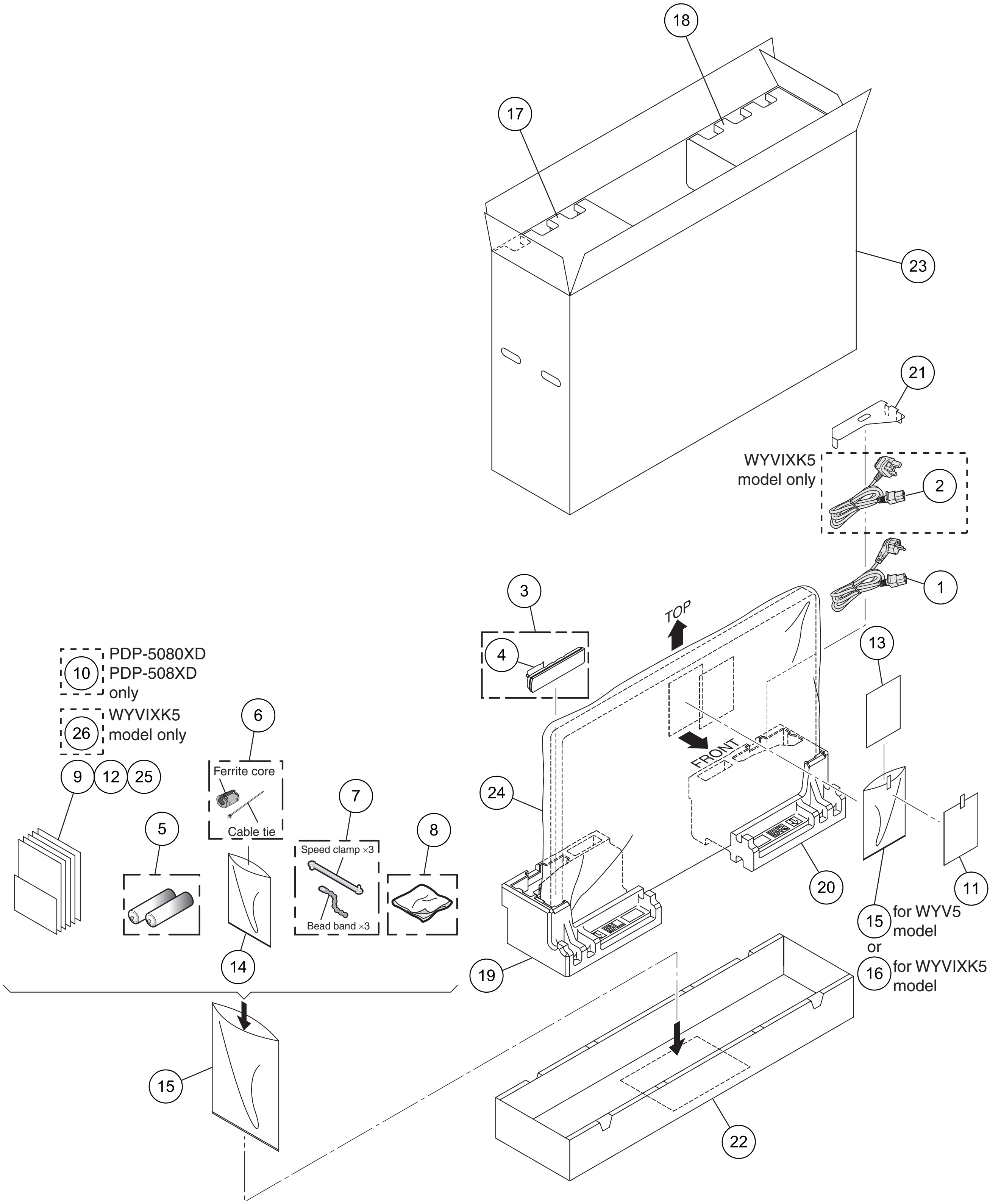
When the DIGITAL Assy is to be replaced, adjustment values can be copied from the backup EEPROM to the EEPROM of the Assy for service.

| Command Format | Operation | | | Remarks |
|---|---|---|---|---|
| | Effective Operation Modes | Control | | |
| [FAJ] | During FAY | To make the flag setting that indicating that adjustment of the panel unit has been completed | Writing 00 to the 4 k byte ROM and copying to the 2 k byte ROM | This takes at least 350 mS. |
| [UAJ] | | To make the flag setting that indicating that adjustment of the main unit has not been completed | Writing F0 to the 4 k byte ROM | |
| [CBU] | | To make the flag setting that indicating that backup data have not been copied | Writing F0 to the 2 k byte ROM | The backup ROM is initialized. |
| [BCP] | | To copy Digital backup data to EEPROM | Copying backup data | |

# 10. EXPLODED VIEWS AND PARTS LIST

*NOTES:* ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screws adjacent to ▼ mark on product are used for disassembly.*
● *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

## 10.1 PACKING SECTION


18
17
23
21
WYVIXK5 model only
2
1
3
4
TOP
FRONT
13
24
20
11
19
22
15 for WYV5 model
or
16 for WYVIXK5 model
10 PDP-5080XD PDP-508XD only
26 WYVIXK5 model only
9
12
25
6
Ferrite core
Cable tie
7
Speed clamp ×3
Bead band ×3
5
8
14
15

## (1) PACKING SECTION PARTS LIST

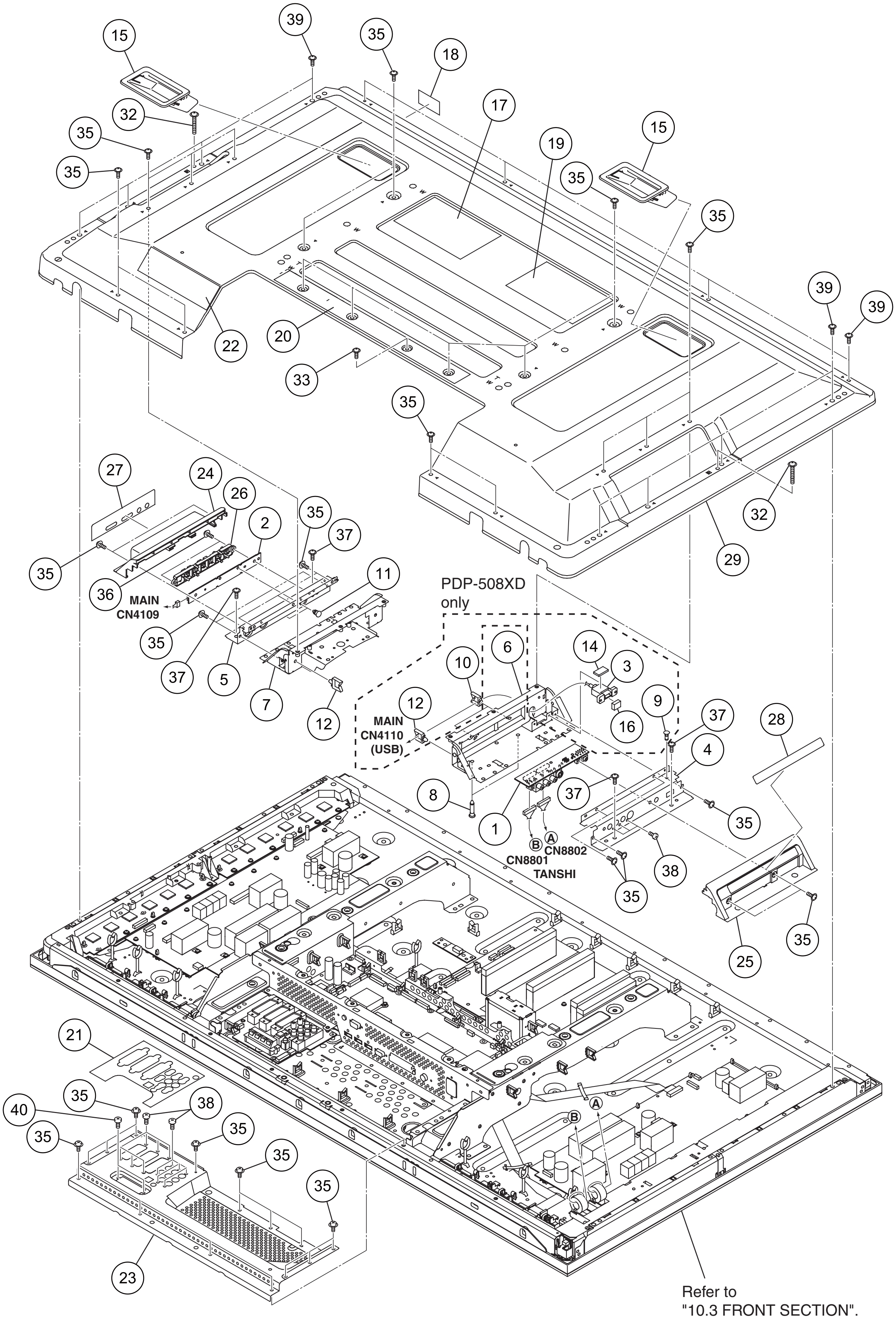
| Mark | No. | Description | Part No. |
|---|---|---|---|
| ⚠ | 1 | Power Cord (2 m) | ADG1214 |
| ⚠ | 2 | Power Cord (2 m) | See Contrast table (2) |
|  | 3 | Remote Control Unit | See Contrast table (2) |
|  | 4 | Battery Cover | See Contrast table (2) |
| NSP | 5 | Dry Cell Battery (R06, AA) | VEM1031 |
| ⚠ | 6 | Ferrite Core (L5321) | ATX1039 |
|  | 7 | Binder Assy | AEC1908 |
|  | 8 | Cleaning Cloth | AED1285 |
|  | 9 | Operating Instructions (English, French, German) | See Contrast table (2) |
|  | 10 | Operating Instructions (Italian, Spanish, Dutch) | See Contrast table (2) |
|  | 11 | Caution Card | See Contrast table (2) |
|  | 12 | Cleaning Caution | See Contrast table (2) |
| NSP | 13 | Warranty Card | ARY1114 |
|  | 14 | Polyethylene Bag | AHG1337 |
| NSP | 15 | Catalogue Bag | AHG1340 |
|  | 16 | Polyethylene Bag | See Contrast table (2) |
|  | 17 | Pad (507 T-L) | See Contrast table (2) |
|  | 18 | Pad (507 T-R) | See Contrast table (2) |
|  | 19 | Pad (507 B-L) | See Contrast table (2) |
|  | 20 | Pad (507 B-R) | See Contrast table (2) |
|  | 21 | Power Cord Lid | See Contrast table (2) |
|  | 22 | Under Carton (507) | See Contrast table (2) |
|  | 23 | Upper Carton | See Contrast table (2) |
|  | 24 | Mirror Mat | See Contrast table (2) |
|  | 25 | After Image Caution | See Contrast table (2) |
|  | 26 | Block Diagram | See Contrast table (2) |

## (2) CONTRAST TABLE

PDP-5080XA/WYV5, WYVIXK5, PDP-5080XD/WYV5, WYVIXK5, PDP-508XD/WYV5 and WYVIXK5 are constructed the same except for the following:

| Mark | No. | Symbol and Description | PDP-5080XA /WYV5 | PDP-5080XA /WYVIXK5 | PDP-5080XD /WYV5 | PDP-5080XD /WYVIXK5 | PDP-508XD /WYV5 | PDP-508XD /WYVIXK5 |
|---|---|---|---|---|---|---|---|---|
| ⚠ | 2 | Power Cord (2 m) | Not used | ADG1223 | Not used | ADG1223 | Not used | ADG1223 |
|  | 3 | Remote Control Unit | AXD1553 | AXD1553 | AXD1552 | AXD1552 | AXD1551 | AXD1551 |
|  | 4 | Battery Cover | AZA7424 | AZA7424 | AZA7424 | AZA7424 | AZN2626 | AZN2626 |
|  | 9 | Operating Instructions (English, French, German) | ARE1478 | ARE1477 | ARE1485 | ARE1476 | ARE1484 | ARE1475 |
|  | 10 | Operating Instructions (Italian, Spanish, Dutch) | Not used | Not used | ARC1602 | ARC1587 | ARC1601 | ARC1586 |
|  | 11 | Caution Card | ARM1232 | ARM1310 | ARM1232 | ARM1310 | ARM1232 | ARM1310 |
|  | 12 | Cleaning Caution | ARM1283 | ARM1311 | ARM1283 | ARM1311 | ARM1283 | ARM1311 |
|  | 16 | Polyethylene Bag | Not used | AHG1326 | Not used | AHG1326 | Not used | AHG1326 |
|  | 17 | Pad (507 T-L) | AHA2538 | AHA2558 | AHA2538 | AHA2558 | AHA2538 | AHA2558 |
|  | 18 | Pad (507 T-R) | AHA2539 | AHA2559 | AHA2539 | AHA2559 | AHA2539 | AHA2559 |
|  | 19 | Pad (507 B-L) | AHA2540 | AHA2560 | AHA2540 | AHA2560 | AHA2540 | AHA2560 |
|  | 20 | Pad (507 B-R) | AHA2541 | AHA2561 | AHA2541 | AHA2561 | AHA2541 | AHA2561 |
|  | 21 | Power Cord Lid | AHC1085 | AHC1087 | AHC1085 | AHC1087 | AHC1085 | AHC1087 |
|  | 22 | Under Carton (507) | AHD3473 | AHD3498 | AHD3473 | AHD3498 | AHD3473 | AHD3498 |
|  | 23 | Upper Carton (5080XA) | AHD3605 | AHD3620 | Not used | Not used | Not used | Not used |
|  | 23 | Upper Carton (5080XD) | Not used | Not used | AHD3642 | AHD3604 | Not used | Not used |
|  | 23 | Upper Carton (508XD) | Not used | Not used | Not used | Not used | AHD3646 | AHD3603 |
|  | 24 | Mirror Mat | AHG1284 | AHG1327 | AHG1284 | AHG1327 | AHG1284 | AHG1327 |
|  | 25 | After Image Caution | ARM1350 | ARM1349 | ARM1350 | ARM1349 | ARM1350 | ARM1349 |
|  | 26 | Block Diagram | Not used | ARY1202 | Not used | ARY1202 | Not used | ARY1202 |

## 10.2 REAR SECTION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37
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36
MAIN
CN4109
35
PDP-508XD
only
37
5
7
12
10
6
14
3
12
MAIN
CN4110
(USB)
9
37
16
28
4
8
37
1
B
A
CN8802
CN8801
TANSHI
38
35
35
32
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35
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21
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40
38
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35
35
35
23
A
B

Refer to
"10.3 FRONT SECTION".

## (1) REAR SECTION PARTS LIST

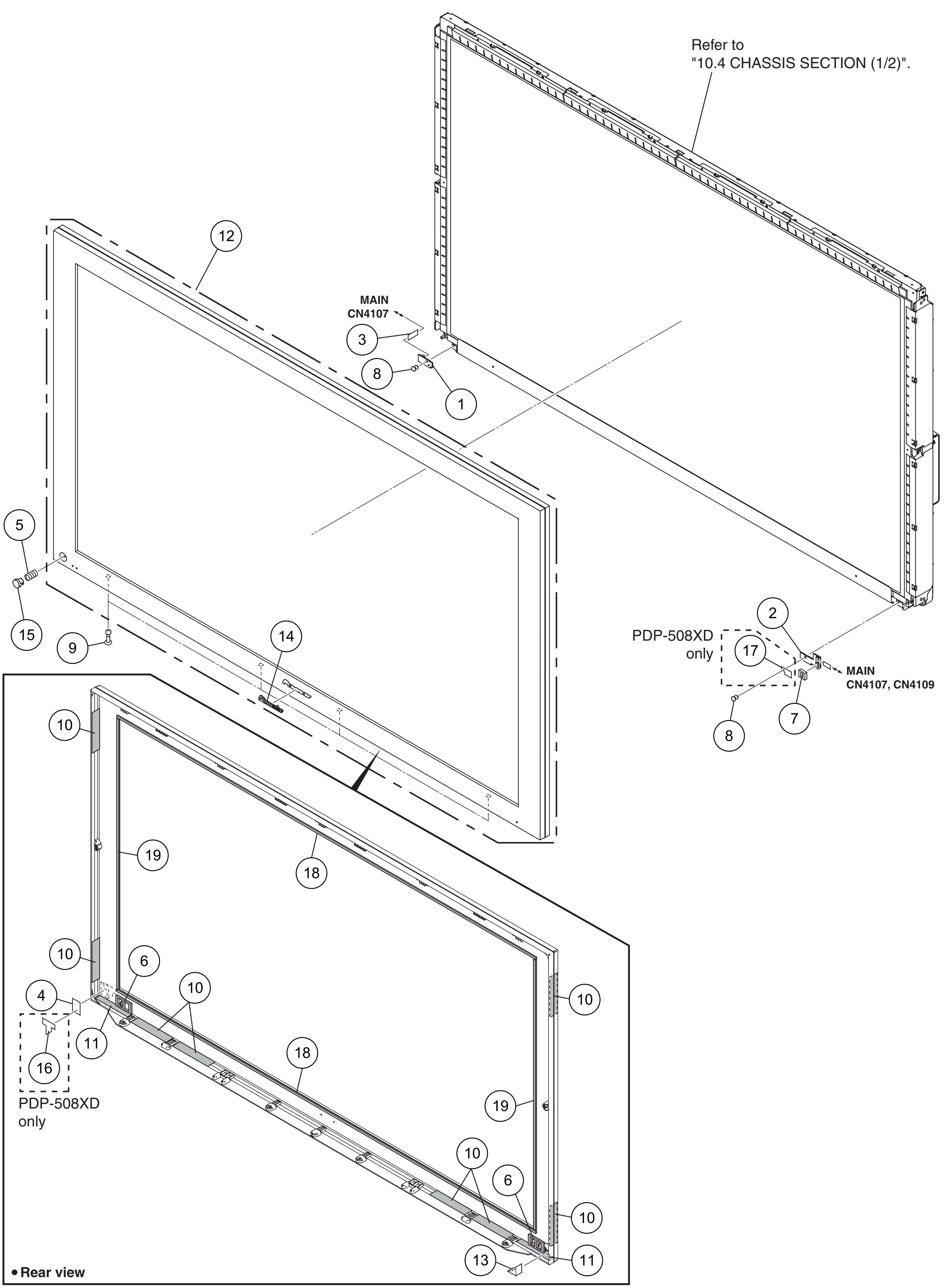
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | SIDE IO Assy | AWW1253 |
| | 2 | SIDE KEY Assy | AWW1286 |
| | 3 | USB Cable (J301) | See Contrast table (2) |
| | 4 | Side Input Panel | See Contrast table (2) |
| | 5 | Function Button Base | See Contrast table (2) |
| | 6 | Side Input Shield | See Contrast table (2) |
| | 7 | Function Button Shield | See Contrast table (2) |
| | 8 | Spacer | AEC1288 |
| | 9 | PCB Spacer | See Contrast table (2) |
| | 10 | Re-use Wire Saddle | See Contrast table (2) |
| | 11 | Locking Card Spacer | AEC2019 |
| | 12 | Re-use Wire Saddle | AEC2118 |
| | 13 | • • • • • | |
| | 14 | USB Spacer A | See Contrast table (2) |
| | 15 | Inner Grip Assy | See Contrast table (2) |
| ⚠ | 16 | Gasket (USB) | See Contrast table (2) |
| NSP | 17 | Name Label | See Contrast table (2) |
| | 18 | Serial Sheet | AAX3143 |
| | 19 | Bolt Caution Label (E) | AAX3533 |
| | 20 | Label A | See Contrast table (2) |
| | 21 | Label B50 | See Contrast table (2) |
| | 22 | Label C | See Contrast table (2) |
| | 23 | Terminal Panel B | See Contrast table (2) |
| | 24 | Function Button Panel | AMB2906 |
| | 25 | Side Input Cover | AMB2911 |
| | 26 | Function Button | AAC1565 |
| | 27 | Function Button Sheet | AAK2896 |
| | 28 | Input Cover Label E | See Contrast table (2) |
| | 29 | Rear Case (508) | ANE1666 |
| | 30 | • • • • • | |
| | 31 | • • • • • | |
| | 32 | Screw (3 x 40P) | ABA1332 |
| | 33 | Screw | ABA1341 |
| | 34 | • • • • • | |
| | 35 | Screw | AMZ30P060FTB |
| | 36 | Screw | AMZ30P080FTC |
| | 37 | Screw | APZ30P080FTB |
| | 38 | Screw | BPZ30P080FTB |
| | 39 | Screw | TBZ40P080FTB |
| | 40 | Screw | BPZ30P100FTB |

## (2) CONTRAST TABLE

PDP-5080XA/WYV5, WYVIXK5, PDP-5080XD/WYV5, WYVIXK5, PDP-508XD/WYV5 and WYVIXK5 are constructed the same except for the following:

| Mark | No. | Symbol and Description | PDP-5080XA /WYV5 | PDP-5080XA /WYVIXK5 | PDP-5080XD /WYV5 | PDP-5080XD /WYVIXK5 | PDP-508XD /WYV5 | PDP-508XD /WYVIXK5 |
|---|---|---|---|---|---|---|---|---|
| | 3 | USB Cable (J301) | Not used | Not used | Not used | Not used | ADF1034 | ADF1034 |
| | 4 | Side Input Panel (8E) | ANC2461 | ANC2458 | ANC2461 | ANC2458 | Not used | Not used |
| | 4 | Side Input Panel (8ES) | Not used | Not used | Not used | Not used | ANC2460 | ANC2459 |
| | 5 | Function Button Base | ANG2923 | ANG3066 | ANG2923 | ANG3066 | ANG2923 | ANG3066 |
| | 6 | Side Input Shield | ANK1834 | ANK1938 | ANK1834 | ANK1938 | ANK1834 | ANK1938 |
| | 7 | Function Button Shield | ANK1835 | ANK1939 | ANK1835 | ANK1939 | ANK1835 | ANK1939 |
| | 9 | PCB Spacer | Not used | Not used | Not used | Not used | AEC1570 | AEC1570 |
| | 10 | Re-use Wire Saddle | Not used | Not used | Not used | Not used | AEC1945 | AEC1945 |
| | 14 | USB Spacer A | Not used | Not used | Not used | Not used | AED1317 | AED1317 |
| | 15 | Inner Grip Assy | AMR3434 | AMR3693 | AMR3434 | AMR3693 | AMR3434 | AMR3693 |
| ⚠ | 16 | Gasket (USB) | Not used | Not used | Not used | Not used | ANK1846 | ANK1846 |
| NSP | 17 | Name Label (5080XA) | AAL2938 | AAL2944 | Not used | Not used | Not used | Not used |
| NSP | 17 | Name Label (5080XD) | Not used | Not used | AAL3001 | AAL2940 | Not used | Not used |
| NSP | 17 | Name Label (508XD) | Not used | Not used | Not used | Not used | AAL3005 | AAL2942 |
| | 20 | Label A (EA) | AAX3479 | AAX3479 | Not used | Not used | Not used | Not used |
| | 20 | Label A (ED) | Not used | Not used | AAX3480 | AAX3480 | AAX3480 | AAX3480 |
| | 21 | Label B50 (ERA) | AAX3541 | AAX3541 | Not used | Not used | Not used | Not used |
| | 21 | Label B50 (ERD) | Not used | Not used | AAX3542 | AAX3542 | Not used | Not used |
| | 21 | Label B50 (ESD) | Not used | Not used | Not used | Not used | AAX3543 | AAX3543 |
| | 22 | Label C (ERA) | AAX3502 | AAX3502 | Not used | Not used | Not used | Not used |
| | 22 | Label C (ERD) | Not used | Not used | AAX3503 | AAX3503 | Not used | Not used |
| | 22 | Label C (ESD) | Not used | Not used | Not used | Not used | AAX3504 | AAX3504 |
| | 23 | Terminal Panel B (50ER) | ANC2453 | ANC2453 | ANC2453 | ANC2453 | Not used | Not used |
| | 23 | Terminal Panel B (50ES) | Not used | Not used | Not used | Not used | ANC2454 | ANC2454 |
| | 28 | Input Cover Label E | AAX3375 | AAX3396 | AAX3375 | AAX3396 | Not used | Not used |
| | 28 | Input Cover Label 8ES | Not used | Not used | Not used | Not used | AAX3510 | AAX3510 |

## 10.3 FRONT SECTION


A
B
C
D
E
F
Refer to
"10.4 CHASSIS SECTION (1/2)".
12
MAIN
CN4107
3
8
1
5
15
9
14
2
PDP-508XD
only
17
MAIN
CN4107, CN4109
7
8
10
19
18
10
6
10
4
11
16
PDP-508XD
only
18
19
10
6
10
10
13
11
• Rear view

## (1) FRONT SECTION PARTS LIST

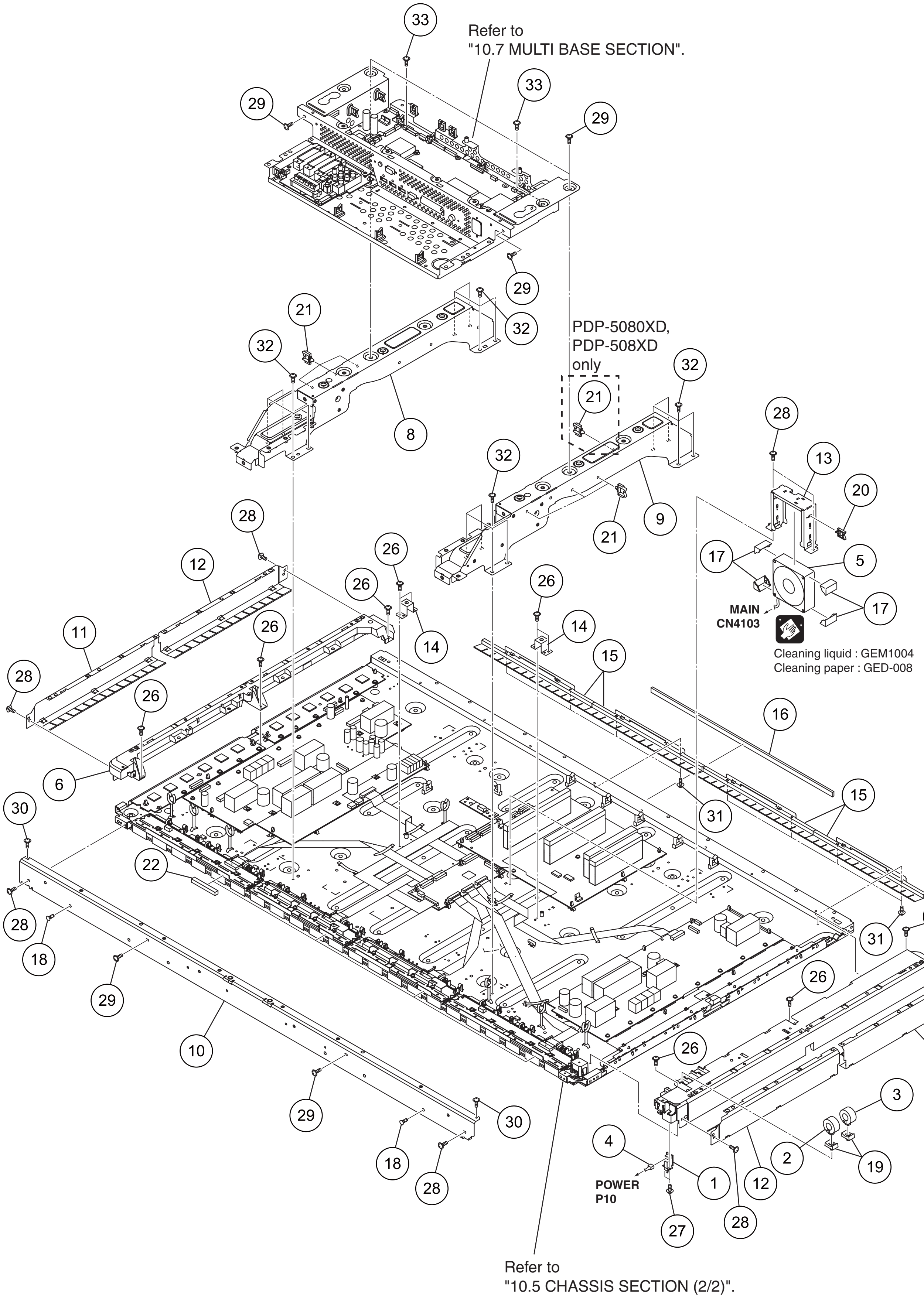
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | 50XGA LED Assy | AWW1280 |
| | 2 | 50LED&IR Assy | See Contrast table (2) |
| | 3 | 3P Housing Wire (J116) | ADX3529 |
| | 4 | IR Reducer | See Contrast table (2) |
| | 5 | Coil Spring | See Contrast table (2) |
| | 6 | Blind Cushion | AEB1415 |
| | 7 | IR Block Cushion | AEB1465 |
| | 8 | Nylon Rivet | AEC1671 |
| | 9 | Rivet | AEC1877 |
| | 10 | Insulation Sheet A | AED1283 |
| | 11 | Insulation Sheet B | See Contrast table (2) |
| | 12 | Front Case Assy | See Contrast table (2) |
| | 13 | Corner Cushion | AEB1416 |
| | 14 | Pioneer Name Plate (50) | AAM1116 |
| | 15 | Power Button | See Contrast table (2) |
| | 16 | Sensor Cushion (508) | See Contrast table (2) |
| | 17 | Sensor Filter | See Contrast table (2) |
| NSP | 18 | Panel Cushion H (50) | AED1320 |
| NSP | 19 | Panel Cushion V (50) | AED1321 |

## (2) CONTRAST TABLE

PDP-5080XA/WYV5, WYVIXK5, PDP-5080XD/WYV5, WYVIXK5, PDP-508XD/WYV5 and WYVIXK5 are constructed the same except for the following:

| Mark | No. | Symbol and Description | PDP-5080XA /WYV5 | PDP-5080XA /WYVIXK5 | PDP-5080XD /WYV5 | PDP-5080XD /WYVIXK5 | PDP-508XD /WYV5 | PDP-508XD /WYVIXK5 |
|---|---|---|---|---|---|---|---|---|
| | 2 | 50LED&IR Assy | AWW1283 | AWW1283 | AWW1283 | AWW1283 | AWW1281 | AWW1281 |
| | 4 | IR Reducer | AAX3455 | AAX3455 | AAX3455 | AAX3455 | AAX3552 | AAX3552 |
| | 5 | Coil Spring | ABH1125 | ABH1125 | ABH1125 | ABH1125 | ABH1128 | ABH1128 |
| | 11 | Insulation Sheet B | AED1284 | AED1284 | AED1284 | AED1284 | AED1325 | AED1325 |
| | 12 | Front Case Assy (5080XA) | AMB3033 | AMB3033 | Not used | Not used | Not used | Not used |
| | 12 | Front Case Assy (5080XD) | Not used | Not used | AMB3032 | AMB3032 | Not used | Not used |
| | 12 | Front Case Assy (508XD) | Not used | Not used | Not used | Not used | AMB3025 | AMB3025 |
| | 15 | Power Button (B) | AAD4154 | AAD4154 | AAD4154 | AAD4154 | Not used | Not used |
| | 15 | Power Button (E) | Not used | Not used | Not used | Not used | AAD4153 | AAD4153 |
| | 16 | Sensor Cushion (508) | Not used | Not used | Not used | Not used | AEB1487 | AEB1487 |
| | 17 | Sensor Filter | Not used | Not used | Not used | Not used | AAK2926 | AAK2926 |

# 10.4 CHASSIS SECTION (1/2)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Refer to
"10.7 MULTI BASE SECTION".

PDP-5080XD,
PDP-508XD
only

Cleaning liquid : GEM1004
Cleaning paper : GED-008

Refer to
"10.5 CHASSIS SECTION (2/2)".

## (1) CHASSIS SECTION (1/2) PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | XGA POWER SW Assy | AWW1261 |
| | 2 | Ferrite Core (L1) | ATX1044 |
| | 3 | Ferrite Core (F10) | ATX1060 |
| | 4 | Housing Wire (J103) | ADX3521 |
| ⚠ | 5 | Fan Motor 80 x 25L | AXM1057 |
| | 6 | Front Chassis VL (50) | AMA1014 |
| | 7 | Front Chassis VR 508 | AMA1029 |
| | 8 | Sub Frame L Assy 507 | See Contrast table (2) |
| | 9 | Sub Frame R Assy 507 | See Contrast table (2) |
| | 10 | Front Chassis H Assy (508) | ANA2106 |
| ⚠ | 11 | Panel Holder V1 (50) | ANG2770 |
| ⚠ | 12 | Panel Holder V2 (50) | ANG2771 |
| | 13 | Fan Holder | ANG2833 |
| | 14 | Multi Base Holder | ANG2937 |
| ⚠ | 15 | Panel Holder H (508) | ANG3087 |
| | 16 | Waterproof Cushion | AEB1424 |
| | 17 | Floating Rubber 80 | AEB1427 |
| | 18 | PCB Spacer | AEC1570 |
| | 19 | Ferrite Core Holder | AEC1818 |
| | 20 | Re-use Wire Saddle | AEC1945 |

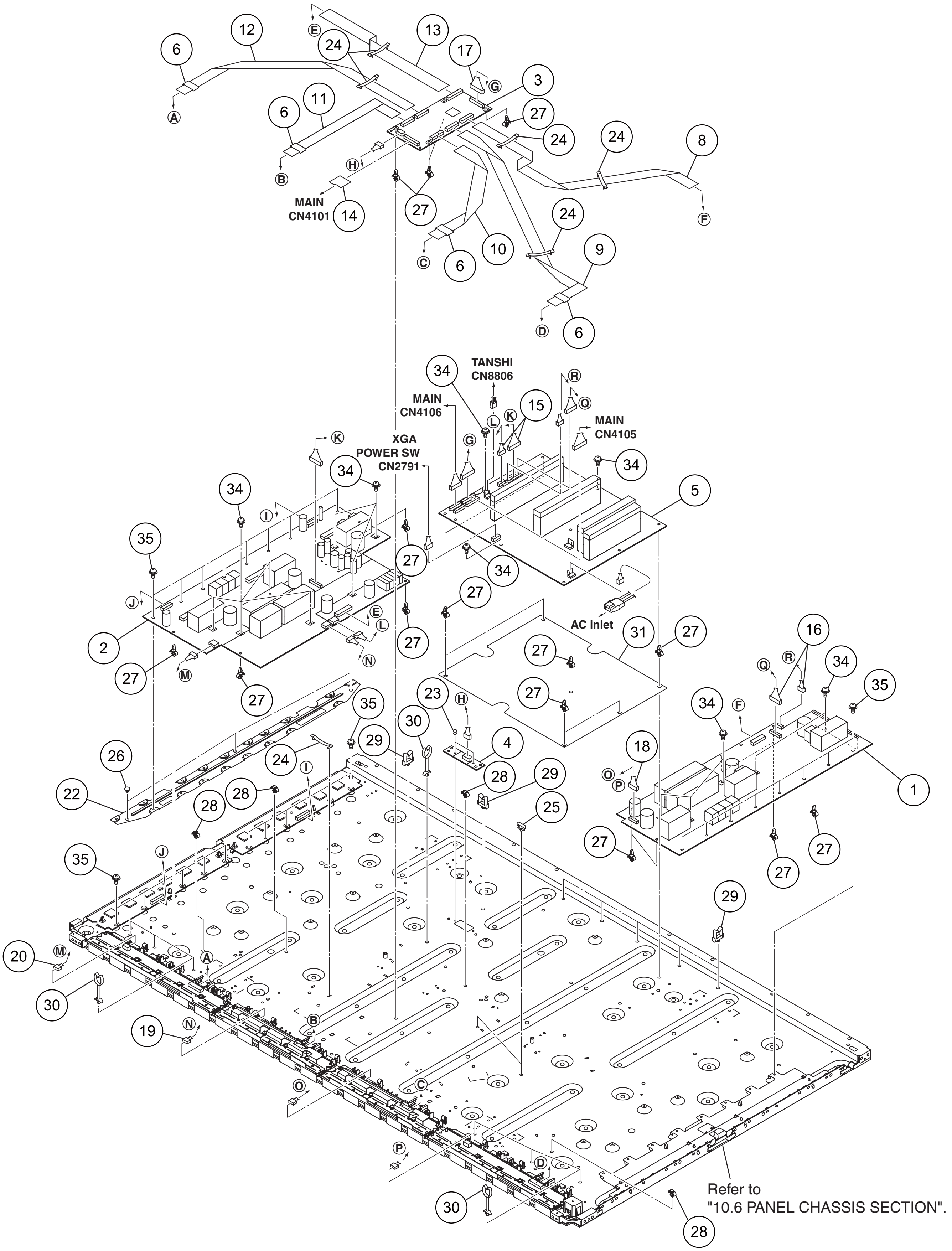
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 21 | Re-use Wire Saddle | AEC2118 |
| ⚠ | 22 | Address Gasket (42) | ANK1877 |
| | 23 | • • • • • | |
| | 24 | • • • • • | |
| | 25 | • • • • • | |
| | 26 | Screw | ABA1351 |
| | 27 | Screw | ABA1370 |
| | 28 | Screw | ABZ30P080FTC |
| | 29 | Screw | AMZ30P060FTB |
| | 30 | Screw | APZ30P080FTB |
| | 31 | Screw | BBZ30P060FTC |
| | 32 | Screw | TBZ40P080FTB |
| | 33 | Screw | ABA1364 |

## (2) CONTRAST TABLE

PDP-5080XA/WYV5, WYVIXK5, PDP-5080XD/WYV5, WYVIXK5, PDP-508XD/WYV5 and WYVIXK5 are constructed the same except for the following:

| Mark | No. | Symbol and Description | PDP-5080XA /WYV5 | PDP-5080XA /WYVIXK5 | PDP-5080XD /WYV5 | PDP-5080XD /WYVIXK5 | PDP-508XD /WYV5 | PDP-508XD /WYVIXK5 |
|---|---|---|---|---|---|---|---|---|
| | 8 | Sub Frame L Assy 507 | ANA1945 | ANA2080 | ANA1945 | ANA2080 | ANA1945 | ANA2080 |
| | 9 | Sub Frame R Assy 507 | ANA1946 | ANA2081 | ANA1946 | ANA2081 | ANA1946 | ANA2081 |

# 10.5 CHASSIS SECTION (2/2)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CN8806
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CN4106
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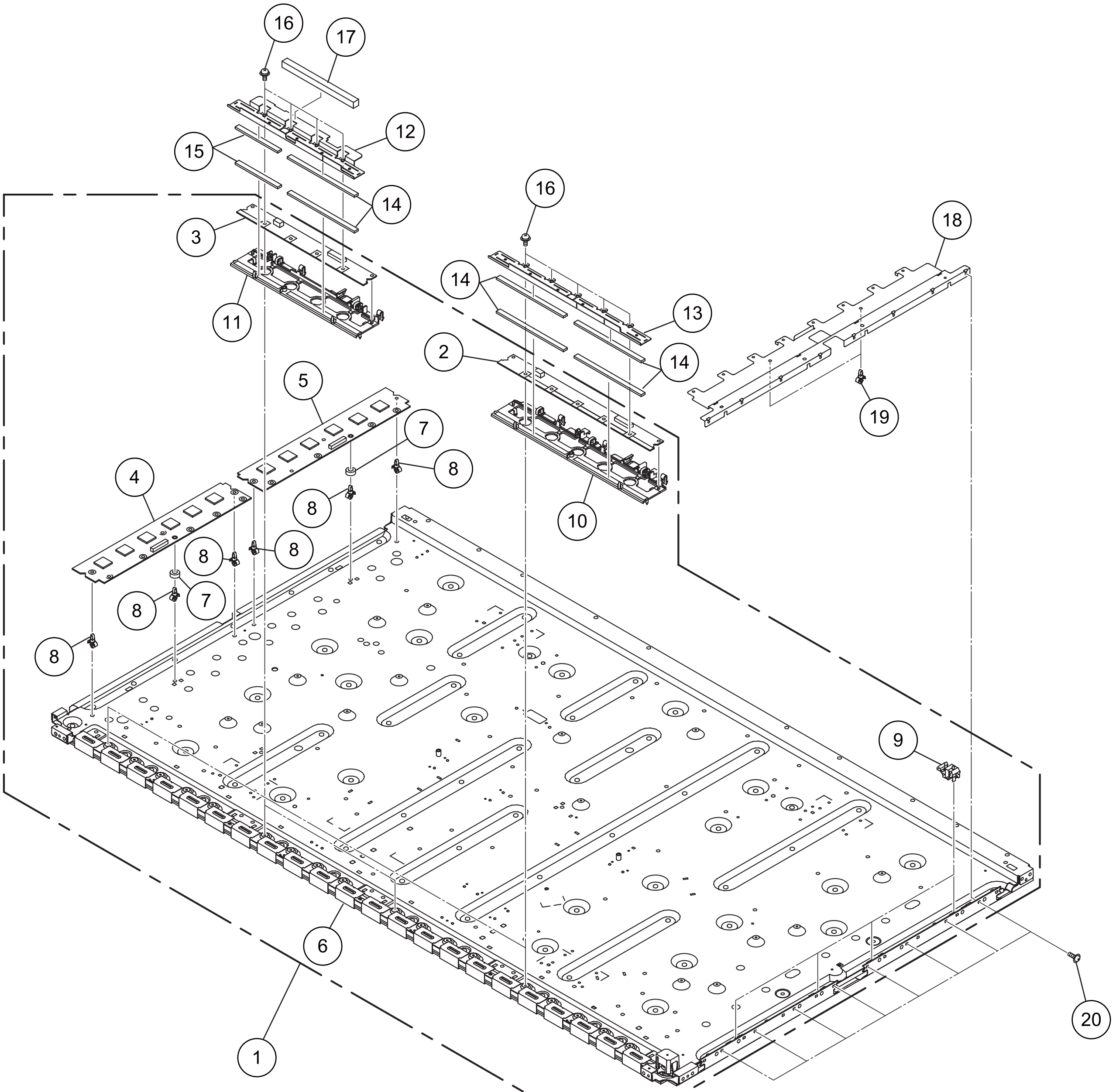
Refer to
"10.6 PANEL CHASSIS SECTION".

## CHASSIS SECTION (2/2) PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | 50 X DRIVE Assy | AWV2447 |
| | 2 | 50 Y DRIVE Assy | AWW1260 |
| | 3 | 50 DIGITAL Assy | AWW1270 |
| | 4 | SENSOR Assy | AWW1272 |
| ⚠ | 5 | POWER SUPPLY Unit | AXY1157 |
| | 6 | Ferrite Core (F1 - F4) | ATX1048 |
| | 7 | • • • • • | |
| | 8 | Flexible Cable (J201) | ADD1476 |
| | 9 | Flexible Cable (J202) | ADD1477 |
| | 10 | Flexible Cable (J203) | ADD1478 |
| | 11 | Flexible Cable (J204) | ADD1479 |
| | 12 | Flexible Cable (J205) | ADD1480 |
| | 13 | Flexible Cable (J206) | ADD1481 |
| | 14 | Flexible Cable (J211) | ADD1482 |
| | 15 | 9P&6/5P Housing Wire (J101) | ADX3519 |
| | 16 | 8P&5P Housing Wire (J102) | ADX3520 |
| | 17 | 14P&5P Housing Wire (J104) | ADX3522 |
| | 18 | 8P/4P Housing Wire (J108) | ADX3525 |
| | 19 | 4P Housing Wire (J109) | ADX3526 |
| | 20 | 4P Housing Wire (J110) | ADX3527 |
| | 21 | • • • • • | |
| | 22 | Conductive Plate Y (508) | ANG3083 |
| | 23 | Nylon Rivet | AEC1671 |
| | 24 | Flat Clamp | AEC1879 |
| | 25 | Locking Wire Saddle | AEC1948 |
| | 26 | Card Spacer | AEC1957 |
| | 27 | PCB Spacer (Re-use) | AEC1941 |
| | 28 | Re-use Card Spacer | AEC2117 |
| | 29 | Re-use Wire Saddle | AEC2118 |
| | 30 | Re-use HL 28 | AEC2119 |
| ⚠ | 31 | Power Sheet (8G) | AMR3708 |
| | 32 | • • • • • | |
| | 33 | • • • • • | |
| | 34 | Screw | ABA1351 |
| | 35 | Screw | ABA1364 |

# 10.6 PANEL CHASSIS SECTION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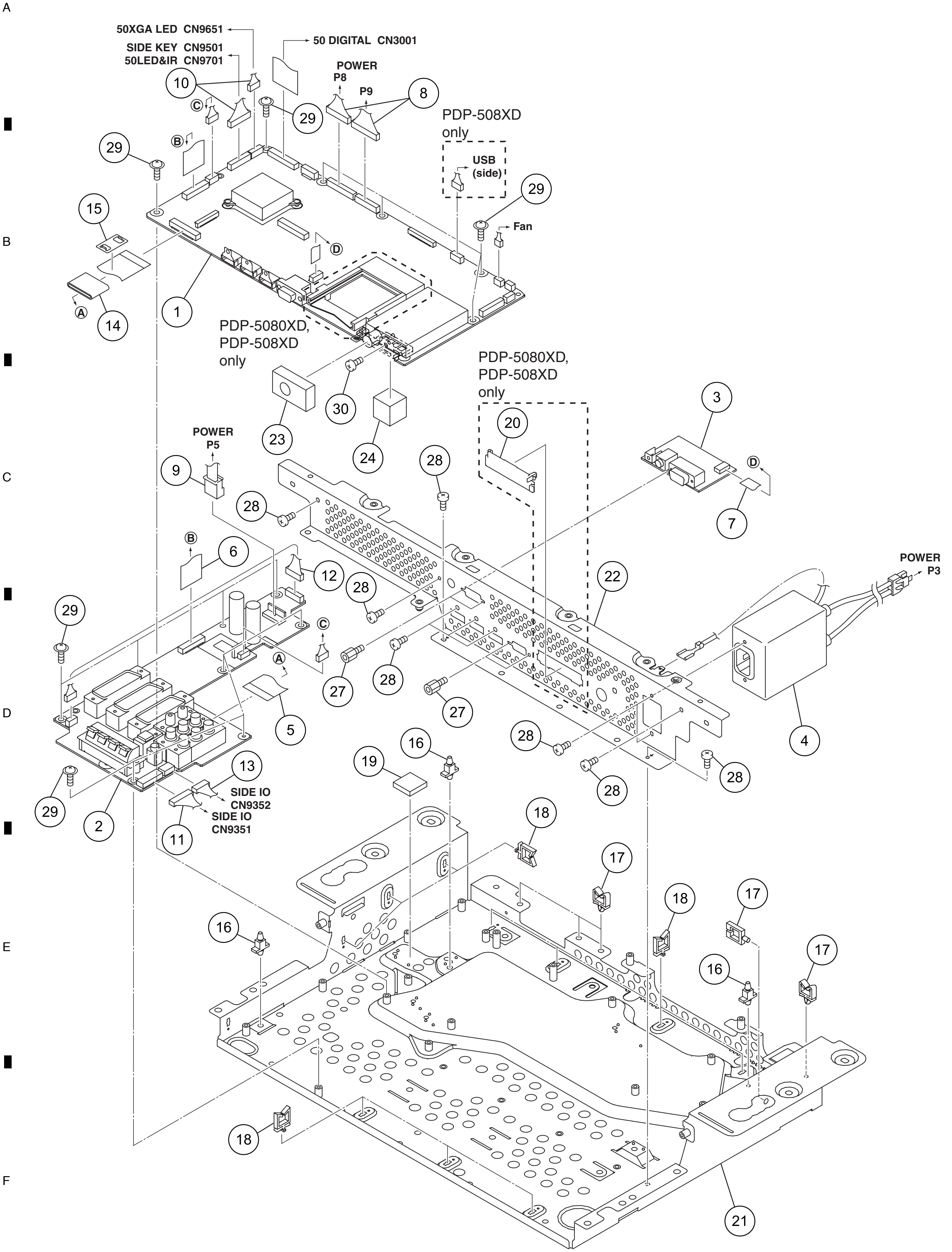
## PANEL CHASSIS SECTION PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| NSP | 1 | Panel Chassis (508) Assy | AWU1248 |
| NSP | 2 | 50 ADDRESS L Assy | AWW1264 |
| NSP | 3 | 50 ADDRESS S Assy | AWW1265 |
| NSP | 4 | 50 SCAN A Assy | AWW1268 |
| NSP | 5 | 50 SCAN B Assy | AWW1269 |
| NSP | 6 | Plasma Panel (508) Assy | AWU1249 |
|  | 7 | Insulation Bushing 1.5 | AEB1482 |
|  | 8 | PCB Spacer | AEC1944 |
|  | 9 | Conductive Plate Holder | AMR3446 |
|  | 10 | Address Holder Assy A (508) | AMR3716 |
|  | 11 | Address Holder Assy B (508) | AMR3717 |
|  | 12 | Address Plate A (508) | ANG3085 |
|  | 13 | Address Plate B (508) | ANG3086 |
|  | 14 | Address Silicone A (508) | AEH1146 |
|  | 15 | Address Silicone A | AEH1093 |
|  | 16 | Screw | ABA1351 |
| ⚠ | 17 | Gasket AD | ANK1948 |
|  | 18 | Conductive Plate X | ANG3081 |
|  | 19 | PCB Spacer | AEC2087 |
|  | 20 | Screw | ABA1364 |

## 10.7 MULTI BASE SECTION


50XGA LED CN9651
SIDE KEY CN9501
50LED&IR CN9701
50 DIGITAL CN3001
POWER
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P9
PDP-508XD
only
USB
(side)
Fan
PDP-5080XD,
PDP-508XD
only
PDP-5080XD,
PDP-508XD
only
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## (1) MULTI BASE SECTION PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| ⚠ | 1 | MAIN Assy | See Contrast table (2) |
| | 2 | TANSHI Assy | See Contrast table (2) |
| | 3 | 232C Assy | AWW1254 |
| ⚠ | 4 | AC Inlet (CN1) | AKP1316 |
| | 5 | Flexible Cable (J212) | ADD1441 |
| | 6 | Flexible Cable (J213) | ADD1491 |
| | 7 | Flexible Cable (J217) | ADD1494 |
| | 8 | 12P&15P Housing Wire (J106) | ADX3523 |
| | 9 | 5P Housing Wire (J107) | ADX3524 |
| | 10 | 6/11/3/8/4P Housing Wire (J114) | ADX3528 |
| | 11 | 11P Housing Wire (J118) | ADX3530 |
| | 12 | 8P/4P Housing Wire (J119) | ADX3531 |
| | 13 | 5P Housing Wire (J125) | ADX3533 |
| | 14 | Ferrite Core | ATX1064 |
| | 15 | Ferrite Stopper | AEC1981 |
| | 16 | Locking Card Spacer | AEC1429 |
| | 17 | Wire Saddle | AEC1745 |
| | 18 | Re-use Wire Saddle | AEC1945 |
| | 19 | Silicone Sheet Audio | AEH1143 |
| | 20 | POD Cover | See Contrast table (2) |
| | 21 | Multi Base Assy (J) | ANA2103 |
| | 22 | Terminal Panel A | See Contrast table (2) |
| ⚠ | 23 | Gasket FE | ANK1945 |
| | 24 | Gasket EC | ANK1954 |
| | 25 | • • • • • | |
| | 26 | • • • • • | |
| | 27 | Hex. Head Screw | BBA1051 |
| | 28 | Screw | BMZ30P060FTB |
| | 29 | Screw | PMB30P080FNI |
| | 30 | Screw | ABA1354 |

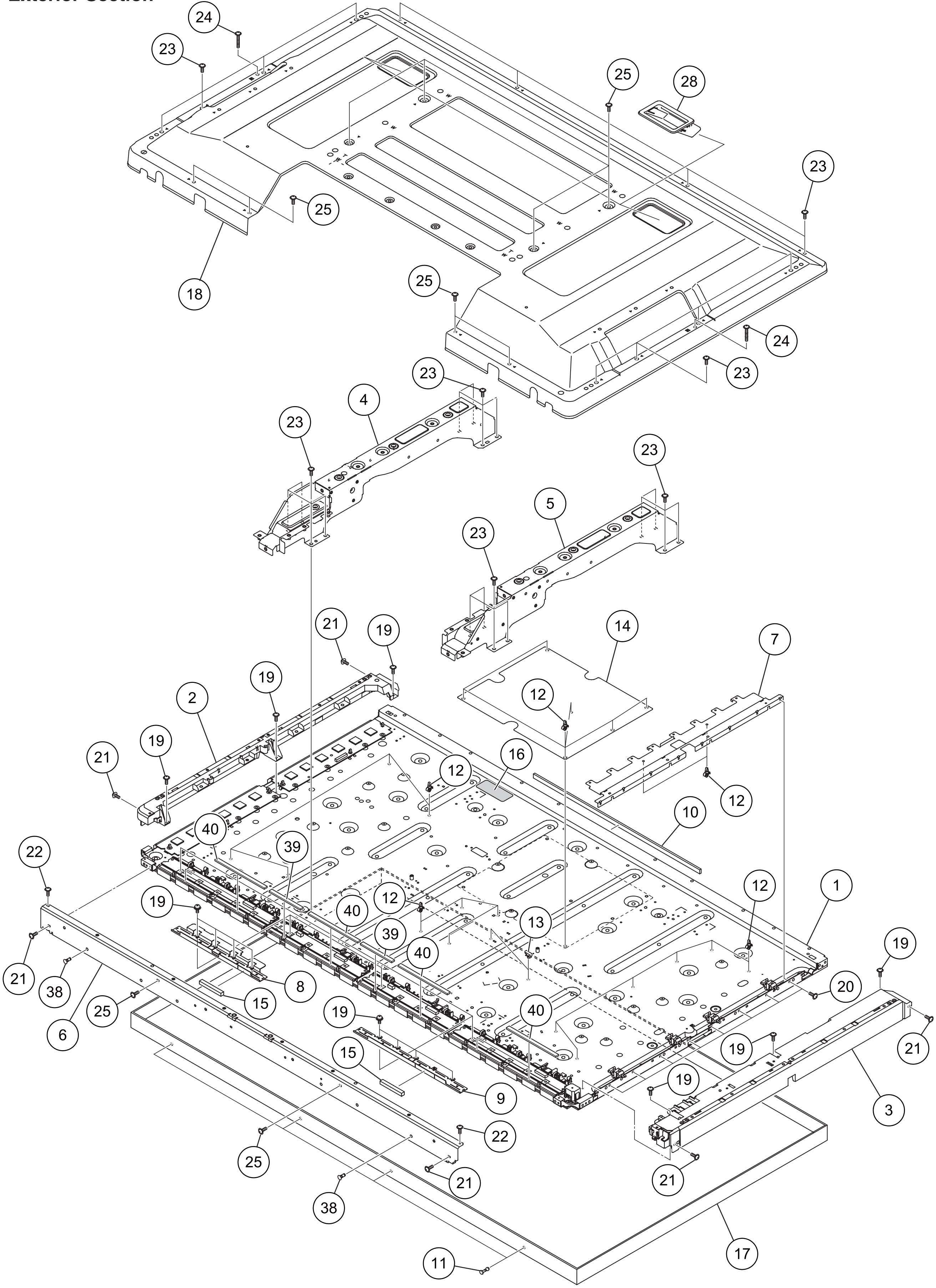
## (2) CONTRAST TABLE

PDP-5080XA/WYV5, WYVIXK5, PDP-5080XD/WYV5, WYVIXK5, PDP-508XD/WYV5 and WYVIXK5 are constructed the same except for the following:

| Mark | No. | Symbol and Description | PDP-5080XA /WYV5 | PDP-5080XA /WYVIXK5 | PDP-5080XD /WYV5 | PDP-5080XD /WYVIXK5 | PDP-508XD /WYV5 | PDP-508XD /WYVIXK5 |
|---|---|---|---|---|---|---|---|---|
| ⚠ | 1 | MAIN Assy | AWV2463 | AWV2463 | AWV2462 | AWV2462 | AWV2461 | AWV2461 |
| | 2 | TANSHI Assy | AWW1252 | AWW1252 | AWW1250 | AWW1250 | AWW1248 | AWW1248 |
| | 20 | POD Cover | Not used | Not used | AMR3542 | AMR3542 | AMR3542 | AMR3542 |
| | 22 | Terminal Panel A (EA) | ANC2442 | ANC2442 | Not used | Not used | Not used | Not used |
| | 22 | Terminal Panel A (ED) | Not used | Not used | ANC2441 | ANC2441 | ANC2441 | ANC2441 |

# 10.8 PDP SERVICE ASSY 508

## ● Exterior Section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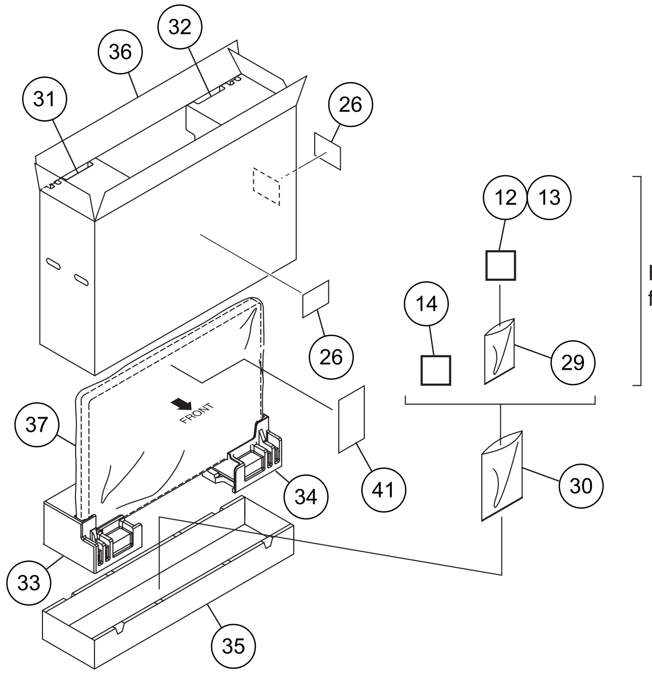
## ● Packing Section



Refer to the "• Exterior Section" for the mounting position.

## PDP SERVICE ASSY 508 PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| NSP | 1 | Panel Chassis (508) Assy | AWU1248 |
| | 2 | Front Chassis VL (50) | AMA1014 |
| | 3 | Front Chassis VR (508) | AMA1029 |
| | 4 | Sub Frame L Assy 507 | ANA1945 |
| | 5 | Sub Frame R Assy 507 | ANA1946 |
| | 6 | Front Chassis H Assy (508) | ANA2106 |
| | 7 | Conductive Plate X (508) | ANG3081 |
| | 8 | Address Plate A (508) | ANG3085 |
| | 9 | Address Plate B (508) | ANG3086 |
| | 10 | Waterproof Cushion | AEB1424 |
| | 11 | Rivet | AEC1877 |
| | 12 | PCB Spacer | AEC1941 |
| | 13 | Locking Wire Saddle | AEC1948 |
| ⚠ | 14 | Power Sheet (8G) | AMR3708 |
| ⚠ | 15 | Address Gasket (42) | ANK1877 |
| NSP | 16 | Drive Voltage Label | ARW1097 |
| NSP | 17 | Front Case Assy (507 service) | AMB2977 |
| | 18 | Rear Case (508) | ANE1666 |
| | 19 | Screw | ABA1351 |
| | 20 | Screw | ABA1364 |
| | 21 | Screw | ABZ30P080FTC |
| | 22 | Screw | APZ30P080FTB |
| | 23 | Screw | TBZ40P080FTB |
| | 24 | Screw (3 x 40P) | ABA1332 |
| | 25 | Screw | AMZ30P060FTB |
| | 26 | Caution Label | AAX3031 |
| | 27 | • • • • • | |
| | 28 | Inner Grip Assy | AMR3434 |
| | 29 | Polyethylene Bag S | AHG1338 |
| | 30 | Catalogue Bag | AHG1340 |
| | 31 | Pad (507 T-L) | AHA2538 |
| | 32 | Pad (507 T-R) | AHA2539 |
| | 33 | Pad (507 B-L) | AHA2540 |
| | 34 | Pad (507 B-R) | AHA2541 |
| | 35 | Under Carton (507) | AHD3473 |
| | 36 | Upper Carton (507 service) | AHD3550 |
| | 37 | Protect Sheet | AHG1331 |
| | 38 | PCB Spacer | AEC1570 |
| | 39 | Address Silicone A | AEH1093 |
| | 40 | Address Silicone A (508) | AEH1146 |
| | 41 | Caution Sheet (8G service) | ARM1369 |

## Changed contents

| Suffix | Applied Page or Title | Revision | Date |
|---|---|---|---|
| 002 | Coversheet | Deleted the description of the reference service manual. | June 22, 2007 |